

**PaulAda #2/Snappy Ben (Clarks Creek-Lacey) (OR-66704)
Environmental Analysis**

Environmental Assessment DOI-BLM-OR-V050-2014-025-EA



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As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

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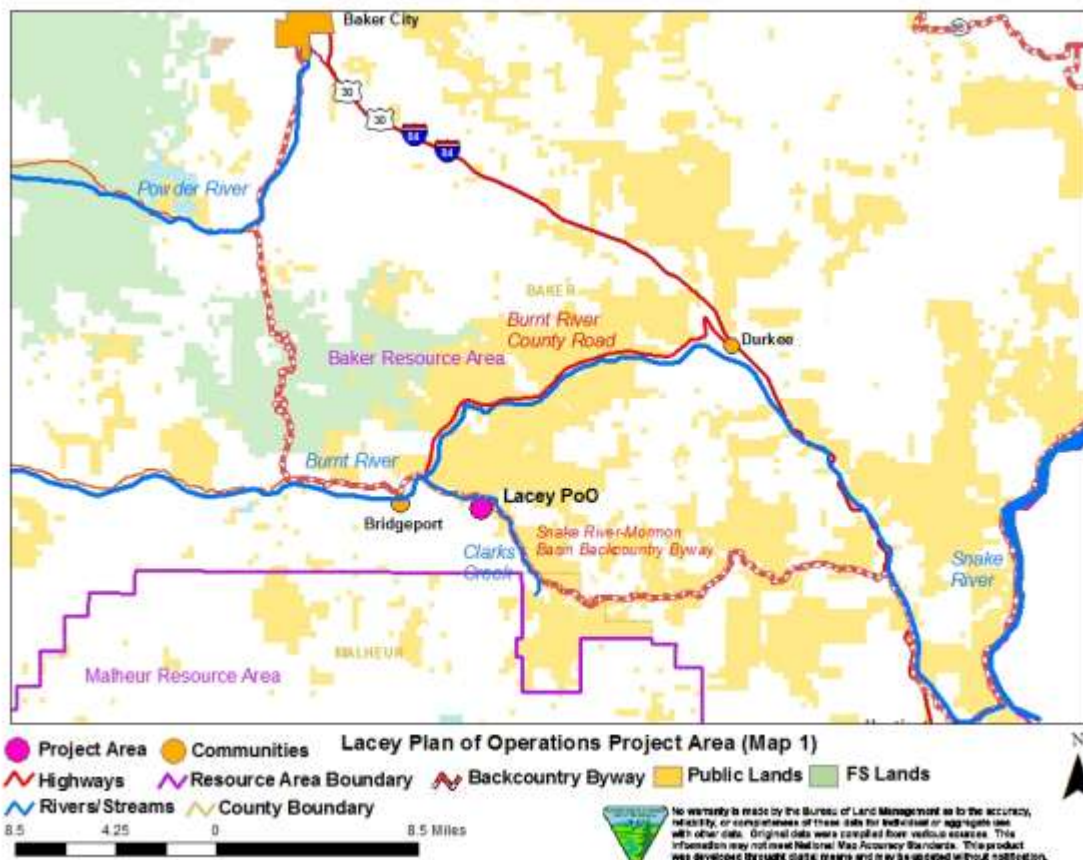
BFO	Baker Field Office
BLM	Bureau of Land Management
BMPs	Best Management Practices
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
DOGAMI	Oregon Department of Geology and Mineral Industries
EA	Environmental Assessment
EO	Executive Order
EPA	Environmental Protection Agency
FLPMA	Federal Land Policy and Management Act of 1976
GHG	greenhouse gases
IM	Instruction Memorandum
KOP	Key Observation Point
MOA	Memorandum of Agreement
MSHA	Mine Safety and Health Administration
NRCS	Natural Resources Conservation Service
NEPA	National Environmental Policy Act
NRHP	National Register of Historic Places
ODEQ	Oregon Department of Environmental Quality
ODFW	Oregon Department of Fish and Wildlife
OWRD	Oregon Water Resources Department
PGH	Preliminary General Habitat
PPH	Preliminary Priority Habitat
RMP	Resource Management Plan
ROD	Record of Decision
SHPO	State Historic Preservation Office
U.S.C.	United States Code
VRM	Visual Resource Management

1.0 INTRODUCTION

1.1 Background

This Environmental Assessment (EA) is a site specific analysis undertaken by the Bureau of Land Management (BLM) Baker Field Office (BFO) of the proposed action taking place on public lands. The proposed action is created from a mining Plan of Operation (Plan) submitted pursuant to Title 43 Code of Federal Regulations (43 CFR) 3809. This Plan (BLM Serial Number OROR-66704) is for the PaulAda #2 and Snappy Ben claims located on Towne Gulch near the old town site of Clarksville in the Baker Resource Area, Baker County, Oregon. The proponents for this action are Art and AJ Lacey. The EA is in conformance with, and tiered to, the 1986 Proposed Baker Resource Management Plan (RMP) Environmental Impact Statement (EIS), and the 1989 Baker Resource Management Plan Record of Decision (ROD). These documents are available for review at the BFO in Baker City, Oregon.

Map 1: Plan of Operations



This Plan includes an area covered by unpatented placer mining claims located in T. 12 S., R. 41 E., Sec. 27 (see Map 1 page 1) and are referred to as the project area for the rest of this document. The lands covered by the claims are administered by the BLM and are open to public

entry under the general land and mineral laws as public domain lands [Master Title Plat located at: <http://www.blm.gov/or/landrecords/or/120s410eu01.pdf>].

1.2 Purpose and Need for Action

The BLM is directed by the surface management regulations at 43 CFR 3809 to review proposed Plans on BLM administered public lands for content completeness and to complete an environmental review as required under the National Environmental Policy Act of 1969 (NEPA). Locatable minerals resource development falls within the requirements of 43 CFR 3809 Surface Management regulations, the Mining Law of 1872, the Federal Land Policy and Management Act of 1976 (FLPMA), the Multiple Surface Use Act of 1955 (or PLO 167), and the Mining and Minerals Policy Act of 1970. These laws entitle the public the right to prospect, mine, and sell certain federally owned minerals on federally managed public lands while ensuring that the prospecting and mining activities do not cause unnecessary or undue degradation of public lands and resources. Approving the mining Plan would allow the proponent to move from the notice-level to the plan-level operations as required by 43 CFR 3809. The BLM is also directed by the Mining Use and Occupancy regulations at 43 CFR 3715 to review occupancy on public lands related to mining activity to insure that the occupancy meets the standards necessary to occupy public lands during mining activity. Concurrence with the occupancy proposed in the Plan would allow the proponent to continue to occupy the public lands in support of their mining activity.

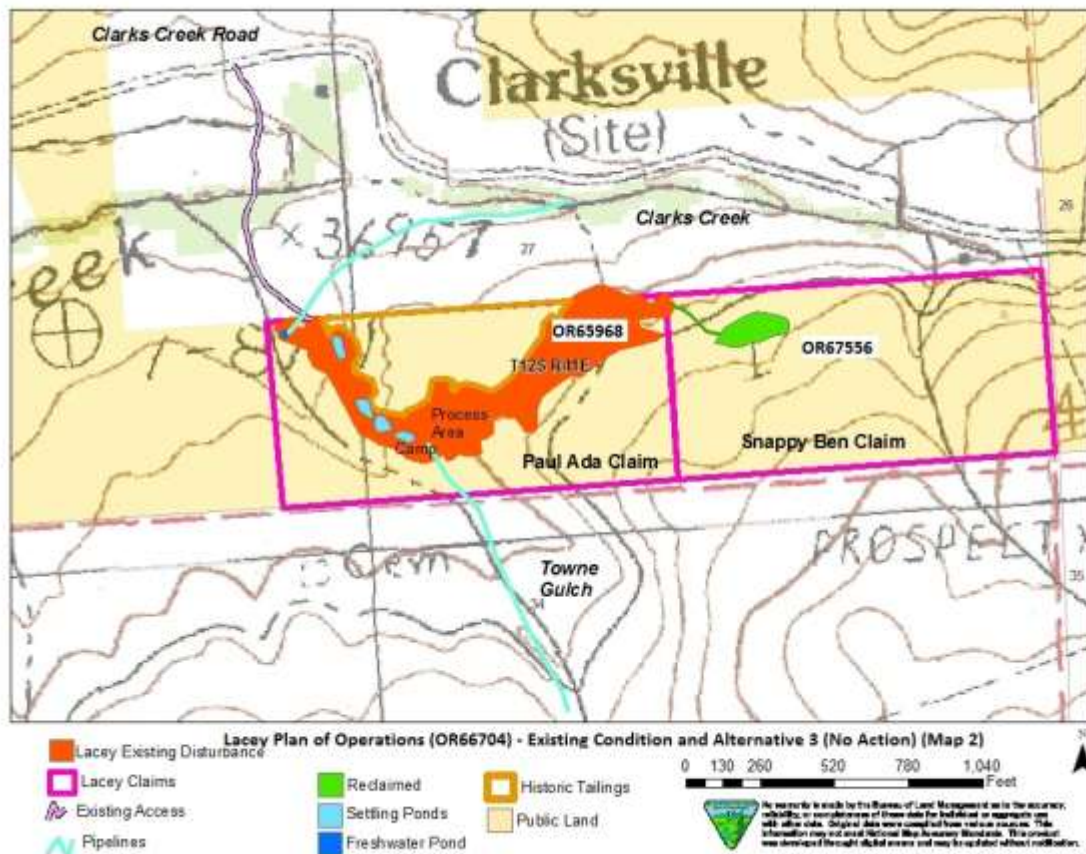
1.3 Current Operations

Pursuant to 43 CFR 3809 there are existing operations occurring within the project area (see Map 2, page 3). The operators are working under two Notices (OR-65968 and OR-67556) which are adjacent to each other. Pursuant to 43 CFR 3809 these two Notices' work would continue at the current level under Alternative #3 - the No Action alternative. The operations are currently approved under an Individual Water Pollution Control Facility (WPCF) permit from the Oregon Department of Environmental Quality (ODEQ). Under the Notices, the southwest side of the PaulAda #2 claim is being explored along a highwall for the length of the road in 90' x 50' sized parcels. On the Snappy Ben claim, a test pit measuring 100' x 100' x 50' depth was excavated in 2012 and reclaimed under the mining notice. Both of the Notices utilize the same four pond processing site to run material through a trommel. Water is supplied via pipelines to a freshwater storage pond from both Towne Gulch and Clarks Creek. Existing roads are being utilized and one 950' road has been created for mining access along the base of the highwall. A large excavator is being utilized to excavate and clear areas for placer exploration, a dump truck is being used to haul material, and a bulldozer is being used for concurrent reclamation each season. A financial guarantee for reclamation of activities described in each Notice was calculated and submitted prior to starting operations. Operations conducted at a notice-level are defined as: conducting exploration activities using mechanized equipment, excavation of five (5) acres or less of disturbance, processing of 1,000 tons or less of presumed ore, and not located in any National Wild and Scenic River Systems, Area of Critical Environmental Concern, National Wilderness Preservation System lands, National Monuments, or National Conservation Areas.

The project area is near the location of old Chinatown/Clarksville and has been placer mined extensively in recent years and historically. The area around Chinatown has been avoided because of concerns with historic cultural resources and the area immediately surrounding the

town site. The area has been inactive for many years allowing vegetation to reestablish in many areas. In 2003, an agreement was made with the State Historical Preservation Office (SHPO) to conduct data recovery and documentation as mitigation for proposed mining disturbance through a portion of a ditch feature within the project area. Currently 4.4 acres have been identified for avoidance of a historic Chinese mining site, until phased data recovery can be completed, as stipulated in the 2003 BLM and SHPO agreement. BLM plans to complete this phased data recovery in 2015, it began in October 2014.

Map 2: Existing Condition & Alternative 3



1.4 Decision to be made

Through the NEPA process, BLM will review the three alternatives discussed below to decide which will provide for mining operations and the conditions under which mining operations will be allowed as per 43 CFR 3809.

Following completion of the BLM's review of the plan, including the analysis under NEPA and public comment, the BLM may:

- 1) Approve the Plan as submitted (43CFR3809.411(d)(1);
- 2) Approve the Plan subject to changes or conditions necessary to meet the performance standards at 43CFR3809.420 and to prevent unnecessary or undue degradation (43CFR 3809.411(d)(2); or

- 3) Disapprove or withhold approval of the Plan because the Plan:
 - (a) Does not meet the applicable content requirements of 43CFR380.401;
 - (b) Proposes operations that are in an area segregated or withdrawn from the operation of mining laws, unless the requirements of 43CFR3809.1000 are met; or
 - (c) Proposes operations that would result in unnecessary or undue degradation of public lands.

Approval of a plan of operations does not authorize the start of operations. The operator must obtain all necessary state and Federal permits before beginning mine plan activities. They must also obtain a reclamation bond sufficient to pay a third party contractor for reclamation of the proposed disturbances (43 CFR 3809.412)

1.5 Issues and Critical Elements

The main issue in this project area is cultural resource concerns in relation to an identified historic mining property, with evidence of Chinese occupation. In 2003, BLM and SHPO agreed that this property is eligible for the National Register of Historic Places under criteria A and D. In accordance with 36 CFR 800.5(b), it was determined that the proposed undertaking will have no adverse effect on any listed or eligible historic properties based on a phased data recovery treatment plan developed between SHPO and BLM. BLM has completed several phases of this plan and now has funding to complete the remaining phases prior to implementation of this Plan of Operation. The submitted plan of operation proposed to avoid the historic property except for removal of a contributing segment of historic ditch. The operator assumed that removing part of the identified site would expedite the approval process. Because complete avoidance of the site is not an option, and requests for future mining in the area are likely, due to gold values, BLM began implementing the phased data recovery agreement between BLM and SHPO during October 2014 and is anticipated to complete the project in the spring 2015. If the mitigation of the entire historic property is completed, the operator could be authorized to mine through the tailings area as an alternative to the plan of operations as submitted. This is analyzed under Alternative 2.

The threat for spreading noxious weeds and non-native invasive plants in this area is high due to the presence of large noxious weed patches in the already disturbed areas.

Other issues associated with this proposal include those identified in the 1989 Baker RMP, Chapter 2 and identified as critical elements of the human environment that could be affected by this action.

Specifically, there are 17 Critical Elements potentially affecting the Human Environment that are required to be analyzed in the EA (Table 1). This table summarizes those elements which are present in the project area and those which are affected by the activities described in the alternatives. The existing environment would address elements which are present within the project area, but may not be addressed further due to lack of effects from the project activities.

Table 1: Critical Elements of the Human Environment

Critical Element	Present	Affected	Critical Element	Present	Affected
<i>Air Quality</i>	<i>Yes</i>	<i>Yes</i>	<i>T, E, S species (plants, fish, and wildlife)</i>	<i>No</i>	<i>No</i>
<i>Areas of Critical Environmental Concern (ACEC)</i>	<i>No</i>	<i>No</i>	<i>Tribal Concerns and Treaty Rights</i>	<i>Yes</i>	<i>Yes</i>
<i>Cultural Resources</i>	<i>Yes</i>	<i>Yes</i>	<i>Special Status Species (wildlife)</i>	<i>Yes</i>	<i>No</i>
<i>Energy and Mineral Resources</i>	<i>No</i>	<i>No</i>	<i>Wastes, Hazardous materials</i>	<i>Yes</i>	<i>Yes</i>
<i>Environmental Justice</i>	<i>No</i>	<i>No</i>	<i>Water Quality, surface/ground</i>	<i>Yes</i>	<i>Yes</i>
<i>Farmlands</i>	<i>No</i>	<i>No</i>	<i>Wetlands/Riparian Zones</i>	<i>Yes</i>	<i>No</i>
<i>Floodplains</i>	<i>Yes</i>	<i>No</i>	<i>Wild and Scenic Rivers</i>	<i>No</i>	<i>No</i>
<i>Forestry</i>	<i>Yes</i>	<i>No</i>	<i>Wilderness/WSA/LWC*</i>	<i>No</i>	<i>No</i>
<i>Noxious and Non-Native Invasive Plants</i>	<i>Yes</i>	<i>Yes</i>	<i>Wild Horse and Burros</i>	<i>No</i>	<i>No</i>
<i>Migratory Birds</i>	<i>Yes</i>	<i>Yes</i>	<i>Recreation</i>	<i>Yes</i>	<i>No</i>
<i>Soils</i>	<i>Yes</i>	<i>Yes</i>	<i>Paleontology</i>	<i>No</i>	<i>No</i>
<i>Visual Resources</i>	<i>Yes</i>	<i>No</i>	<i>Access/Transportation</i>	<i>Yes</i>	<i>No</i>

Note: (*Italics indicate resources addressed in the Existing Environment section*)

*WSA = Wilderness Study Areas, LWC = Lands with Wilderness Characteristics

In addition to the Critical Elements listed below in Table 1, the following other resources are present and are addressed in the Affected Environment section:

Socioeconomic Resources
Geology

Range Management
Human Health and Safety

1.6 Conformance to Land Use Plans, Laws, Regulations and Policy

The alternatives described below are in conformance with the goals for resources of the Baker RMP and Record of Decision (BLM 1989). The project area is located within the Burnt River Geographic Unit (GU) of the Baker Resource Area. Major resources identified for the GU include minerals, cultural, and wildlife; minor resources include range, watershed, recreation, and forest. The locatable minerals objective for the Baker Resource Area is to allow exploration and development on 392,222 acres of public domain lands available for location under the locatable mining laws (Baker RMP Record of Decision, p. 28). This exploration and development would be consistent with the “unnecessary or undue degradation” standard set forth in Surface Management Regulations (43 CFR 3809).

The Plan was submitted and considered complete under the 43 CFR 3809 requirements. The Mining Law of 1872 as amended allows public lands owned by the United States to be open to mineral exploration as public domain lands, which does not include withdrawn areas or acquired

lands. The Multiple Use Surface Act of 1955 allowed federal agencies to write regulations for surface management. All applicable claims have been filed according to the Federal Land Policy and Management Act of 1976 (FLPMA) and are on lands determined to be open to mineral entry.

Operations would be in accordance with all Federal, state, and local laws and regulations. Operations would not start until all approved permits are provided to the BLM. State, local and other federal departments may include but are not limited to: Oregon Department of State Lands (DSL), DOGAMI, ODEQ, Oregon Water Resources Department (OWRD), U.S. Fish and Wildlife, Mining Safety and Health Administration (MSHA), and U.S. Army Corps of Engineers (ACE).

Other regulations used in constructing management of public lands include:

- the Endangered Species Act 1973 (ESA)
- BLM 6840 Manual for Special Status Species for fish, wildlife, and plants
- Migratory Bird Treaty Act (MBTA)
- Executive Order (EO) 13186 for migratory and neotropical birds
- Bald and Golden Eagle Act (YYYY)
- Clean Water Act of 1977 as amended
- Clean Air Act of 1970 as amended
- Oregon Administrative Rules and Oregon Revised Statutes related to mining and clean water
- The Antiquities Act of 1906, 16 U.S.C. 431-433
- The National Historic Preservation Act (NHPA) of 1966, as amended 16 U.S.C. 470
- The American Indian Religious Freedom Act of 1978, 42 U.S.C. 1996
- The Archaeological Resources Protection Act of 1979 (ARPA) 16 USC 470
- Native American Graves Protection and Repatriation Act of 1990, 25 U.S.C. 3001
- *Executive Order 11593 of 1971*
- *Executive Order 13007 of 1996* (Indian Sacred Sites)
- Executive Order 13175 of 2000 (Consultation and Coordination with Indian Tribal Governments)
- BLM Manuals: 8100 Series.

In December 2011, the BLM issued interim management policies and procedures for the greater sage-grouse through Instruction Memorandum (IM)-2012-043 (BLM 2011a). This represents the current BLM management policy for greater sage-grouse habitat until such time as plan amendments can be completed throughout the range of the species that address a comprehensive conservation strategy. This policy addresses locatable minerals management for proposed authorizations/activities as follows:

“Require that new notices and plans of operation include measures to avoid or minimize adverse effects to Greater Sage-Grouse populations and its habitat. Ensure that new notices and plans of operation comply with the 43 CFR 3809 to prevent unnecessary or undue degradation. Such compliance may assist in avoiding or minimizing adverse effects to Greater Sage-Grouse populations and its habitat.”

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action (Alternative #1)

The proponents filed a Plan for two claims, the PaulAda #2 and Snappy Ben, totaling approximately 40 acres, located in T. 12 S., R. 41 E., Sec. 27, W.M. The Plan proposes work on 30 acres of these claims in ½ acre increments, with operations occurring one increment at a time. Driving access to the project area is south off the Burnt River Canyon County road along the Clarks Creek County road for 2 miles then onto the mine access road to the processing site. The proponents propose to mine gold-bearing placer gravels through operations mid-slope parallel to Clarks Creek. The proponents (father and son) are currently exploring the mineral deposit under notice-level operations (see Map 3 page 8), but have decided to combine their operations under a plan of operations because of a shared access route, the ability to utilize the existing process area, and because the ore deposit is continuous across both claims.

Maximum area of disturbance for the Plan would be approximately 30 acres including mining sites, processing sites and identified access routes. The total proposed disturbance can be viewed on the Alternative #1 - Map 3 on page 8.

As operations commence, starting at the western most point along the highwall, the material would be hauled to the processing site and run through a trommel. These operations would proceed in ½ acre parcels from west to east along the highwall. As each ½ acre parcel is opened, the previous one would be reclaimed by backfilling holes with washed gravels and topsoil replaced last followed by recontouring. Sediments would be cleaned out of the ponds and stockpiled to dry then used for growth medium in reclamation. Seeding of reclaimed areas with a BLM approved seed mix would take place each fall.

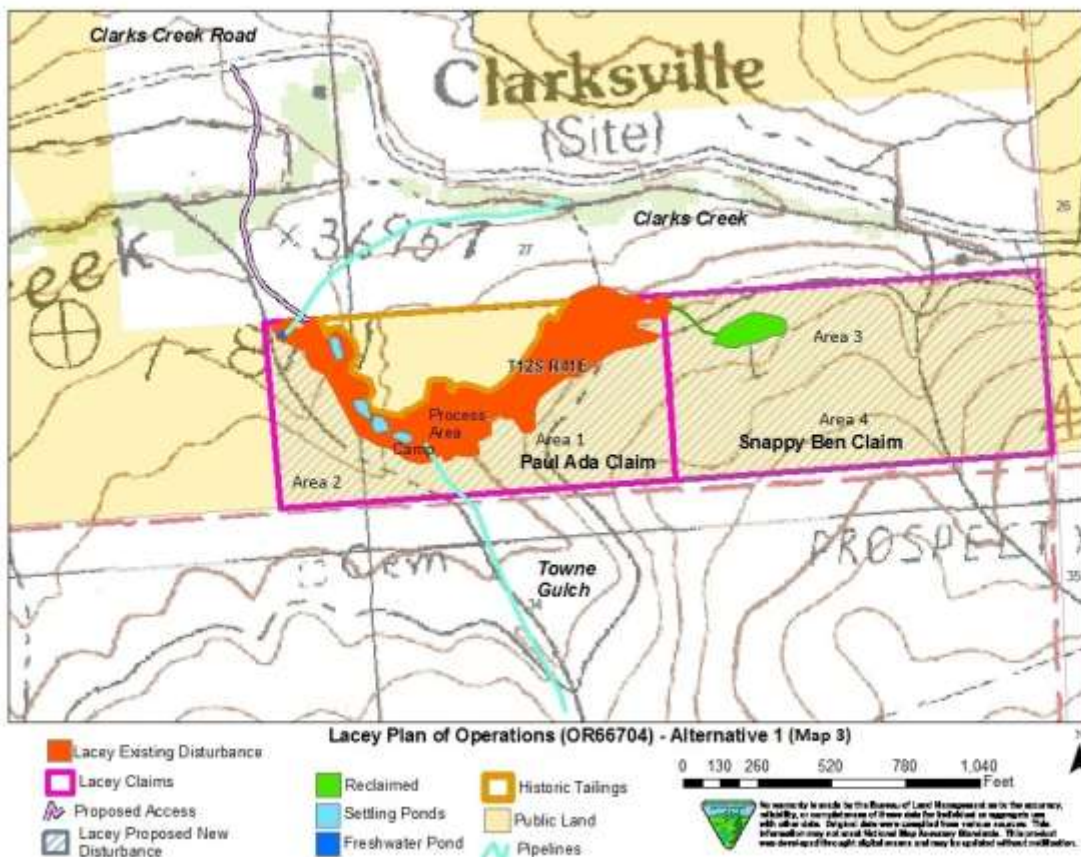
The operations would be conducted annually, depending upon weather conditions, for approximately six months each year from late May through October. Proposed processing rate is 80 cubic yards daily. Operations would be continuous throughout the summer, until freezing temperatures require short periods of closure. The final close out each year is estimated for the end of November, but would be started in late October. The operator is estimating 10 years or less to complete processing of all gold bearing material on the site.

The current notice-level operations for both the PaulAda #2 and Snappy Ben claims are bonded according to the magnitude of disturbance. These bond amounts would be reevaluated for Plan-level activities prior to commencement of operations pursuant to 43 CFR 3809.552(b) and (c). The following permits are required prior to work and may need to be expanded for Plan-level activities: a water rights permit from the OWRD for the water supply, a Water Pollution Control Facility (WPCF) permit from the ODEQ for the settling ponds, and an operating permit from DOGAMI for disturbance over 1 acre or 5,000 cubic yards annually. These permits would be maintained for all operations on this site and copies would be provided to the BLM prior to starting operations.

The proposed action described in the Plan is supported by the locatable mineral values determined by previous testing by the operators. The proposed action is to mine the project areas until values are exhausted using equipment such as excavators, bulldozers, loaders, and dump trucks for extraction of material. Processing of the material would use pumps, generators, a trommel, conveyors, and pipelines.

All activities are proposed under the authority of the 1872 Mining Law as amended and the BLM Surface Management regulations located at 43 CFR 3809. The details of the Plan are included below.

Map 3: Alternative 1



a. Access/Roads (see Map 3 page 8)

Access to all claims is off Clarks Creek road east of Bridgeport, Oregon. Traveling along the Burnt River Canyon county road off Highway 245 the Clarks Creek road is about 1.5 miles past the split near the old site of Clarksville. Access can also be from I-84 along the Burnt River Canyon road out of Durkee, Oregon. Access across the private portion should have a written agreement with Elliot Ranches to legally travel across the 900 feet of road which fords Clarks Creek. Access to the east side of the claims is through the private lands on a 900 foot existing road with an additional 950 foot road on public lands created by the miner. Total existing road lengths on the claims total 1,350 feet which would be used for pipeline maintenance, hauling by heavy equipment and a dump truck, or has been used previously for access. An additional 600 feet of road is proposed to be created for temporary access to mining excavations. All claims would have a limited amount of cross country travel associated with access to mining sites and would be completely reclaimed with the mining area. Hauling would be done along exiting roads and limited to the mining operation site. All roads existing and proposed for access in the

Plan would be ten feet wide on average. A culvert 16 foot long by one foot in diameter was placed at the ford on the road that crosses Towne Gulch.

b. Mining and Placer Equipment:

- Equipment proposed for use in mining and processing operations for the Plan of Operation is listed below. The equipment may change if needed. The operator would notify the BLM in writing if there is a change to any equipment listed in the Plan of Operation.
- 235 Caterpillar excavator with 1 cubic yard bucket
- 1 bulldozer: Caterpillar D9 or smaller
- Wheeled loader with 5 cubic yard bucket
- One (5 to 10 yard) dump truck
- 80 cubic yard/day trommel
- 1 Tractor-Farmall farm tractor
- 1 Double axel equipment flatbed trailer with tool box
- 1 Welder-arc welder carried in pickup
- 1 generators-50kW
- 2-pipelines (Clarks Creek diversion-1180' of 4" PVC, 480' of 6" PVC, and 160' of 8" PVC; Towne Gulch diversion-860' of 4" PVC and 200' of 6" PVC)
- 2 - 4 x 4 pickup trucks

c. Buildings and Facilities:

One to two self-contained RVs, with approved waste water containment systems, will be placed on this site. An equipment trailer is proposed to remain on site during the operational season to provide storage for extra items such as batteries, spill kits, hand tools, fire extinguishers, etc. This trailer would also be used to move equipment around the operation.

This facility is in compliance with 43 CFR 3715 in regards to occupancy. The RVs are: incident to mining, constitute substantially regular work, would lead to the extraction and beneficiation of minerals, and would support visible on the ground mining activity, and the operator is using appropriate equipment that is operable. All occupancy on site would be to protect the minerals and equipment from theft, protecting the public from mining activities and equipment, and not in an area within the mining boundary. The RVs and equipment trailer would be bonded for and removed once mining is complete.

d. Schedule of Operations

Operations across both claims would last approximately 10 years or less if the mineral value runs out and the operations become uneconomic. The majority of the reclamation and earthwork would take place concurrently with active mining operations as sites are exhausted; requiring a year at a minimum for final reclamation including removal of equipment, recontouring, and seeding once mining is completed. Much of the seeding would take place in the fall as the operations move along the hillslope to provide for optimum vegetation establishment.

The operator plans to mine in ½ acre parcels, with up to 4 parcels during a mining season, creating up to 2 acres of disturbance or less annually. This seasonal disturbance may

change throughout the project depending on the ability to process 80 cubic yards per day, working equipment, and values found while mining.

All equipment and facilities would be removed from the area during final reclamation. New temporary roads constructed for mining operations would be closed or mined through and ultimately stabilized and reclaimed depending on pre-mining uses. Final reclamation would take place in the season following the completion of the 30 acres of mining. If all operations proceed as planned, then final reclamation including seeding, should take place around year ten.

e. Water Supply

Water is supplied to a freshwater storage pond from Towne Gulch and Clarks Creek via pipelines (see Map 3 page 8). All water would be recycled on each processing site in a series of four sediment settling ponds. All pipelines are above ground and made of 4-8" PVC with the total length of the pipelines is 1,200 feet on BLM lands. An additional 1,680 feet of pipe is currently located on adjacent private land with the concurrence of the private land owners.

The processing site would recycle approximately 350 gallons per minute for running the trommel. The amount of water authorized for mining use from Towne Gulch or Clarks Creek is one cubic foot per second. The first two settling ponds hold approximately 71,000 gallons of water for recycling. Replacement water is only required when the seepage or evaporation is high.

Pumps, hoses, and generators associated with water supply would be stored on site and be maintained on a daily basis.

f. Water/Sediment Management

The proposed action calls for a processing site that consists of three settling ponds, one sediment drying area, a fresh water supply pond, a stockpile area next to the trommel, and access for cleaning out the area. All settling ponds currently exist and are out of the Towne Gulch channel. The settling ponds would be backfilled, the compacted area harrowed, and the disturbance area reseeded once mining in the area is completed.

Ponds would be used to settle out sediments and make water available to recycle through the processing system. The processing site has a three settling pond system with the first pond being cleaned out of sediments daily during operations. In addition to the settling ponds, the freshwater storage pond would allow storage of water pumped through the pipelines from either Towne Gulch or Clarks Creek. Buffers of 20' would be established from the high water mark in Towne Gulch to prevent sediment from entering the channel.

The currently established processing site on PaulAda #2 (see Map 3 page 8) includes four settling ponds and a trommel. The total disturbance of this site is currently estimated at $\frac{3}{4}$ acre including access roads. The proposed sediment drying area is 50' x 50' and piles could be up to 6' tall and four settling ponds sized 40' x 60' x 8', 30' x 60' x 8', 30' x 60' x 8' and 20' x 30' x 5' exist. The freshwater storage pond is sized 40' x 20' x 10' and also exists.

Water quality is expected to be maintained by allowing the solids to settle into the tailings settling ponds before the water is reused. Water seepage from the settling ponds into the surrounding soils is anticipated and permitted by the state.

Sediments from the ponds would be dried and replaced on top of washed and separated backfill material to provide a growth medium for vegetation. Sediments would be cleaned out of settling ponds on a regular basis to provide for the ongoing reclamation needs.

g. Existing Disturbances

As in any mining operation, the operator must establish a cause for expanding the operations. In this case, there have been extensive test runs over the last 7 years throughout the project area by the current operators under Notices. Therefore, 6 acres of disturbance across the project area currently exists (see Map 2 page 3).

The current operations are small scale, mining in $\frac{1}{2}$ - $\frac{3}{4}$ acre increments to a depth of 50 feet along contour mid-ridge. The two notices include sampling and testing continuing along the seam to the east. No mining directly in the Clarks Creek channel or Towne Gulch is included in either Notice. Operations include: use of an existing processing site containing three settling ponds, a freshwater storage pond, a $\frac{1}{3}$ acre mining area, and water use under existing water rights. Notice-level operations allow up to 5 acres or 1,000 cubic yards of presumed ore material to be mined annually for exploration under the 43 CFR 3809 regulations. Much of the work described in these two Notices has been completed for the proposed project area of the Plan.

For the purposes of this proposed Plan of Operation and Reclamation Plan, all activities conducted by the proponent would be considered disturbances subject to reclamation requirements for the Plan. Both Notices would be incorporated into the Plan and subject to the reclamation requirements authorized by this document and the approval of the Field Manager.

h. Proposed Mining Disturbance

The Plan of Operation has combined two Notices as the project area, totaling 30 acres of disturbance located in T. 12 S., R. 41 E., section 27, W.M. This proposed acreage would include mining along the mid-slope portion of the ridge (see Map 3 page 8). The mining would occur in $\frac{1}{2}$ acre parcels running from the west at the processing site to east along the mid-slope of the ridge. The existing processing area on the Paul Ada #2 claim would be used for ore generated from both mining claims.

There would be up to one acre open at a given time with additional disturbance area for stockpiles of topsoil and overburden. Mining would proceed similarly in all sites by stripping topsoil into stockpiles, piling overburden separately, and processing the pay dirt along bedrock at a depth of approximately 50 feet.

Mining Site (Area) #1(see Map 3 page 8): Mining would start at the existing pit and would include the cut bank and hill area that is being mined currently. The entire Mining Site #1 would include four acres east of the current processing site. Bedrock is estimated to be 50 feet deep in this location and the proposal is to mine to the depth of bedrock.

Equipment would access this area along the current road and the depth can be achieved with the equipment being used. Mining would take place from the processing site to the east along the current highwall and would take up to 5 years.

Mining Site (Area) #2 (see Map 3 page 8): This one acre site would be located southwest of Towne Gulch. The proposal is to excavate two test holes 20' x 50' to bedrock, which is estimated at 10'-30' deep. Buffers of 20' would be established from the high water mark in Towne Gulch to prevent sediment from entering the channel. A culvert would be placed on Towne Gulch at the fork for access to reduce impacts to the stream. Mining would start furthest from the stream and progress downslope to the 20' buffer and would take up to 1 year.

Mining Site (Area) #3 (see Map 3 page 8): This area would be the north end of the Snappy Ben claim on the far eastern side of the project area. The total mining area would be 5 acres, mined in ½ acre parcels, including the current ½ acre test hole which has been reclaimed. This portion of the operation would take up to 2 years.

Mining Site (Area) #4 (see Map 3 page 8): This area would encompass the southern 5 acres of the Snappy Ben claim. Similarly to Mining Site #3 it would total 5 acres, mined in ½ acre parcels. This portion would also take about 2 years.

i. Spill Prevention, Containment, and Countermeasures Spills

No materials which could be toxic or acid-forming are used in this placer mining process. Petroleum products are the only hazardous materials used in these operations. Oil, lubricants, used oil and antifreeze would be brought in on a pickup truck. Daily diesel and regular gas for equipment would be transported using a service truck. Waste petroleum products would be removed in original containers and disposed of in an appropriate manner off BLM lands. All applicable Federal and State regulations would be adhered to for the disposal of contaminated soil and other material.

A Spill Contingency Plan is included as Appendix B which identifies procedures for the operator notifying the BLM and Oregon DEQ should a spill exceeding 42 gallons of petroleum product occur.

The following are the Federal and State Regulations which would need to be adhered to pertaining spills:

- Resource Conservations and Recovery Act (RCRA)
- Toxic Substances Control Act (TSCA)
- Hazardous Material Transportation Act (HMTA)
- Clean Water Act (CWA)
- Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)
- Superfund Amendment Reauthorization Act (SARA) Title 3
- Oregon Spill Reporting; Oregon Administrative Rule (OAR) 340-108

A funnel would be used to minimize spills when fueling all pumps and equipment. All equipment is checked for fluid leaks before the equipment is operated, and normal

maintenance (oil changes, etc.) take place more than 20 feet away from streams, riparian areas and springs. No fueling of equipment or routine maintenance would take place near streams.

Absorbent material would be kept on site in case of small leaks or spills of petroleum products. Contaminated soil would be removed from BLM.

j. Quality Assurance Plan

This project does not entail any construction of facilities such as heap leach pads, tailings impoundments for hazardous material, or use of any chemicals. Therefore, quality assurance would be provided by complying with all terms and conditions required in permits and authorizations for the mining project.

k. Reclamation Plan

Reclamation of disturbed areas resulting from activities is outlined in the Plan of Operation. The BLM is responsible for managing public lands to prevent undue or unnecessary degradation, which may result from locatable operations under the mining laws (43 CFR 3809). In addition, the State of Oregon requires that a reclamation plan be developed for each mining project on either public or private lands over certain thresholds (Oregon Revised Statute 517).

The total disturbances are summarized below in Table 2 under the comparison of alternatives. All areas of mining would have ongoing reclamation with only a maximum of ½ to 1 acre of surface disturbance in active open pits not including stockpiles at any one time, and up to two acres per season. Reclamation standards are required pursuant to 43 CFR 3809.420 and include rehabilitation of wildlife habitat, placement of growth medium and establishment of self-sustaining revegetation. All excavations would be backfilled, recontoured, and seeded with a BLM approved native-seed mix. All wet ponds used in processing have been proposed to be left for habitat by the operator. All of the dry ponds would be backfilled and wet ponds may be left if determined by the BLM to be necessary for wildlife habitat, if not they will be backfilled. All roads and areas of compacted soil would be ripped and seeded with any other required maintenance such as water barring and erosion control measures in place. Seeding of all areas would be done each fall for reclaimed areas. The operator would provide BLM with proof of seed mix purchase and would take pictures of seeded areas for monitoring purposes. All equipment would be removed at the close of operations and any size spills or leaks would be taken care of before operator vacates the area.

All roads created for mining, would be re-contoured and planted with a BLM approved seed mix. All roads would be stabilized with appropriate water bar and erosion prevention features (ie. ditches, berms removed, etc.).

Monitoring-Vegetation would be monitored during and for a minimum of two years post reclamation of each disturbance area. This monitoring would include noxious weed and non-native invasive species identification, and percentage of native revegetation coverage in seeded areas. If reseeded falls short of BLM revegetation standards, the operator

would be notified and the area would be seeded again. Noxious weeds would be treated by the operator following BLM guidelines and standards.

I. Environmental Protection Measures

The operator has proposed protection measures to minimize undue and unnecessary degradation. Many of these have already been covered above under Water/Sediment Management, Spill Prevention, Containment, and Countermeasures, and Reclamation sections, but need to be readdressed for evaluation.

Hazardous Materials - A Spill Prevention plan was submitted as part of the Plan and is included in Appendix B. The hazardous materials present at the operation site would consist of diesel fuel, gasoline, petroleum based oil, hydraulic oil, and grease. All fuel for equipment and small amounts of oils and grease for maintenance would be transported in on the service truck.

Spills would be handled according to Federal and State laws and regulations. All contaminated dirt would be removed from BLM lands and disposed of in the proper manner or at the appropriate facilities. All used oil, batteries, tires, and other waste items would be removed periodically off the mine site and disposed of properly. Spill kits would be on site for any larger spills. When leaks on equipment are observed containment of leaks would be with absorbent materials or equipment would be repaired to stop leaks.

Water Management – Environmental Protection Measures (EMPs) would be employed during all mining activities to prevent or minimize erosion from operations. Erosion control measures to be used would include water barring, seeding, and covering of topsoil while stockpiled.

Water is provided in plastic piping from Towne Gulch and Clarks Creek. It is being pumped uphill and is gravity fed downhill. Water used in the washing plant would be recycled from the settling ponds once suspended sediments settle. A permit has been acquired for wastewater facilities from ODEQ.

Noxious and Non-Native Invasive Plant Management – During operations the proponent shall ensure that all equipment and vehicles are cleaned prior to entering public lands in an effort to minimize the transport and spread of noxious weeds. The operator would work with the BLM to implement a weed treatment and control program. Any chemical weed control will be in accordance with BLM policy and coordinated with the local BLM office. A BLM approved all states certified noxious weed free seed mix will be used for reclamation.

Dust Control – The proponent has proposed to use application of washed rock for dust abatement along haul roads.

Cultural Resources – BLM identified one historic mining site within the project area. In 2003, BLM and SHPO agreed that the property is eligible for the National Register of Historic Places under criteria A and D. In accordance with 36 CFR800.5(b), it was determined that the proposed undertaking will have no adverse effect on any listed or

eligible historic properties based on a phased data recovery treatment plan developed between SHPO and BLM. BLM has completed several phases of this plan, including data recovery for the Towne Gulch mining ditch, and now has funding to complete the remaining phases prior to implementation of this Plan of Operation. Under this alternative, the project would avoid a four acre area containing a historic mining site and occupation area. However, operations would remove what remains of the Towne Gulch mining ditch, a contributing feature of this historic property.

Pursuant to 43 CFR 3809.420(b)(8)(i) operators shall not knowingly disturb, alter, injure, or destroy any scientifically important paleontological remains or any historical/archeological site, structure, building, or other object on Federal Lands. Pursuant to 43 CFR 3809.420(b)(8)(ii) operators shall immediately bring to the attention of the authorized officer any cultural and/or paleontological resources that might be altered or destroyed on Federal lands by his/her operations, and shall leave such discovery intact until allowed to proceed by the authorized officer. The authorized officer shall evaluate the discoveries brought to his/her attention, take action to protect or remove the resource, and allow operations to proceed within 10 working days after notification to the authorized officer of such discovery.

Reclamation – The Plan identifies reclamation activities in a Reclamation Plan pursuant to 43 CFR 3809. Reclamation activities would consist of removal of the processing facilities, equipment, and supplies. Once all the equipment is removed from the site, then all remaining excavations, except ponds determined by the BLM to be wildlife habitat, would be backfilled, recontoured, and seeded. All areas of disturbance would be stabilized and temporary soil erosion measures put in place until a suitable plant community has been established.

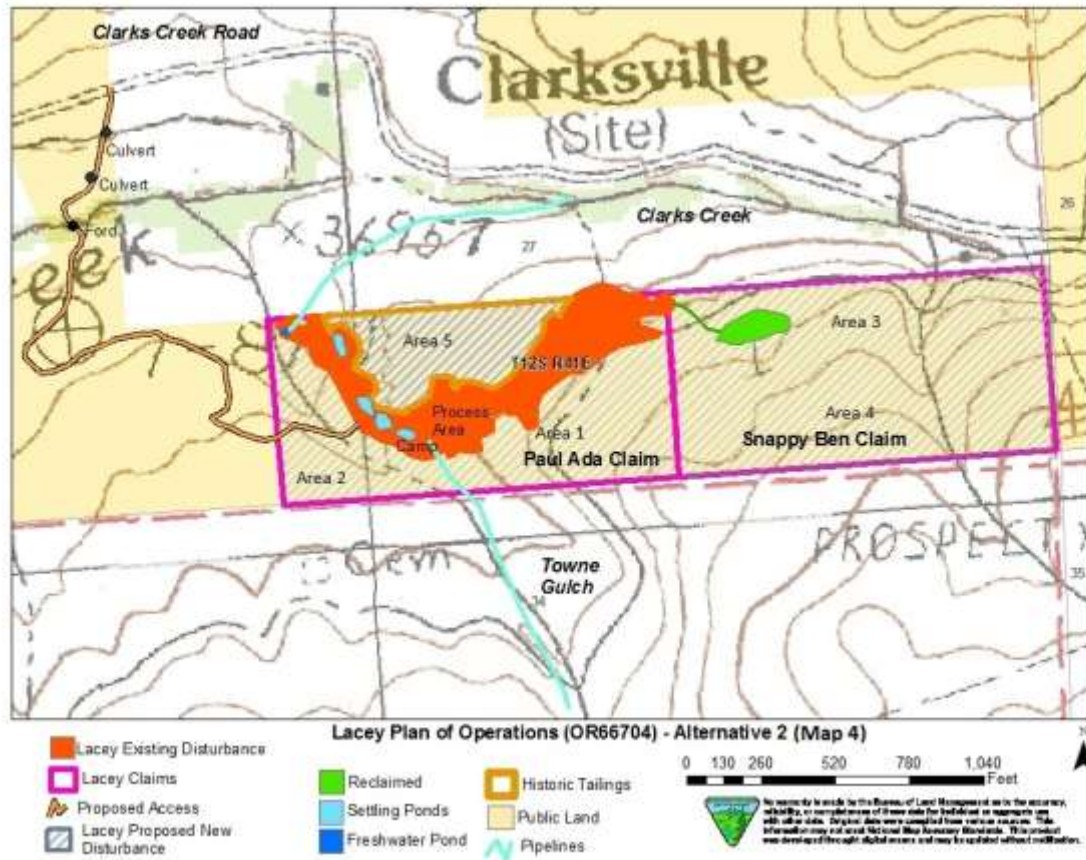
A financial guarantee would have to be accepted by the BLM prior to commencing operations on the approved Plan of Operations. This financial guarantee would be calculated as if BLM was to contract a third party to do the reclamation work (43 CFR 3809.552).

Visual monitoring of the site would be conducted throughout operations and post operations for erosion and vegetation establishment. A minimum of two years monitoring of revegetation is required to determine if the vegetation is acceptable. Corrective measures would be taken should the operator be in non-compliance of an approved Plan of Operations or BLM regulations for locatable mining.

2.2 Alternative to the Proposed Action (Alternative #2)

The operations in this alternative would proceed in a similar manner to the proposed action with the added operations through the identified historic property after data recovery and documentation, of an area of approximately 5 acres. Operations in the tailings would start north of the processing site with ½ acre open at a time. Material from this excavation would be hauled south to be washed and separated. All existing processing facilities would be maintained and utilized for work in this additional area. All mining activities would remain the same as the proposed action for the additional 5 acres.

Map 4: Alternative 2



The access road would change to an existing road all on public lands managed by the BLM. Portions of this access road were constructed under notice OR-65968, but since its construction, access to the site has been by the road across private land (Alternative 1). This access road also has a ford at Clarks Creek. This access road also accesses an adjacent mining operation, True Claims, and would be used for both operations.

All the same approved permits required for the proposed action would apply to this alternative and would be submitted to BLM prior to operations. In addition to permitting done similar to Alternative 1, this alternative would follow the agreement the BLM has with the State Historical Preservation Office (SHPO) to do work in this area. Alternative 2 is essentially the same as Alternative 1 except for the following:

a. Access/Roads

An existing access road initially used by the operators at the beginning of their notice work would be utilized under this Alternative 2. This road is completely across public lands as opposed to the access road under Alternative 1 which crosses several hundred feet of private lands from its junction of the Clarks Creek Road. A portion of existing public access road approximately 2,600 feet in length crosses Clarks Creek at a ford, skirts the adjacent operation on the True Claims, owned by a different claimant, and then crosses Towne Gulch at a culvert to access the current workings on the PaulAda #2. The operator would follow maintenance stipulations put forward by BLM and MSHA. An

estimated 150 feet of new, temporary road would have to be built and an existing road of 450 feet would need to be used to access the tailings area. There are two culverts in the existing road across BLM: one across an overflow channel and ditches associated with Clarks Creek and one at Towne Gulch.

b. Schedule of Operations

The proposed schedule operations would extend for five years for mining (for a total of 15 years) of an additional five acres at a rate of one to two acres per year in ½ acre parcels. The operation and reclamation would advance in the same manner as the proposed action.

c. Proposed Mining Disturbance

Under this alternative, a fifth mining area (Mining Area #5) is proposed to be mined. This area of 4.4 acres encompasses a historic property identified as eligible under Criterion A and D. Mining would not occur in this area until mitigation as identified in the agreement has been completed. This five acre parcel is north of the existing disturbance and processing area and would require an estimated 150 feet of new road development for access and already has 450 feet of road in place. Mining would take place in ½ acre parcels, with one to two acres open per season. All mining and reclamation would be similar to all four other mining sites.

The total surface disturbance for this alternative would be 35 acres, including newly constructed road acreages. This alternative would still include all pipelines and all the existing roads (see Table 2).

d. Reclamation Plan

The reclamation for Alternative #2 would include BLM required Environmental Protection Measures (EPMs, listed below). All the rest of the reclamation would take place in the same manner as the proposed action and would follow all Federal, State, and local laws and regulations.

Mining Site #5 is an area covered by existing rock tailings and with areas devoid of existing vegetation. Reclamation of this area would require recontouring to original contour and replacing topsoil if available, but establishing vegetation in portions of this area is not likely to meet the standards of other components of the plan of operations.

Monitoring – All vegetation and weed monitoring would take place similarly to Alternative #1.

e. Environmental Protection Measures

All Environmental Protection Measures (EMPs) listed here for this alternative, would be in ADDITION to what has already been addressed in the proposed action by the operator. All other operator proposed Environmental Protection Measures would be the same as described in the proposed action. A complete list of operating stipulations and mitigations would be included in the Plan.

Water Resources and Soils– Culverts installed in intermittent drainages would be designed to prevent ponding of water behind road fill and would allow drainage during

high intensity events. They would be maintained to insure proper operation. All fords would be armored to withstand the volume and weight of traffic using the crossings and allow for fish passage. Sediment and erosion control measures such as waterbars would be incorporated into the design and construction of the road to meet the volume and weight of the vehicles and equipment being used. Effort would be made to return soils to the place of origin. Soil stockpiles would be covered either by vegetation or plastic to reduce loss of material to both wind and water erosion. Soil enhancements, such as mulching, would be used as needed to assist in establishing vegetation. Roads would need to be upgraded or designed to address the volume of traffic, weight of vehicles, topography, slope, and load bearing capacities of the soils.

Noxious and Non-Native Invasive Plants – The operator would maintain roadsides, tailings, dried sediment from settling ponds, and disturbed areas in a weed free state. Traveling through known weed patches with equipment and personnel would be avoided when possible, especially when plants are seeding to prevent the spread of weed species. Off-road and cross country travel would be minimized. When traveling in known weed infestations, equipment should be cleaned, with an emphasis on the undercarriage and moving parts, before moving into other areas to work. Ensure equipment wash-up areas are monitored and treated for emerging weeds.

Wildlife – The operator would follow mitigation that requires retention of any ponderosa pines in the tailings area of the PaulAda #2 claim and any large trees (greater than 18” diameter breast height) on the Snappy Ben claim which would be beneficial for bird species, both neo-tropical and migratory.

Cultural Resources – All historic properties would be evaluated in order for mining activities to take place. Any new discoveries of cultural or paleontological resources during mining would be handled the same way as the proposed action.

The operator shall immediately bring to the attention of the resource area manager, any paleontological (fossil) remains or any historical or archaeological site, structure, or object that might be altered or destroyed by exploration or mining operations, and shall leave such discovery intact until told to proceed by the resource area manager. The resource area manager and the resource area archaeologist shall evaluate the discoveries brought to their attention, take action to protect or remove the resource(s), and allow operations to proceed after notification. Should mining operations encounter human remains, the mining operation would immediately cease operations and BLM would be notified immediately. The operator shall not resume operations until notified by the resource area manager.

Reclamation – This alternative has the same reclamation plan as the proposed action, however there may not be any topsoil in portions of the old tailings area. Areas with salvageable topsoil in this area would have the topsoil replaced and seeded. In areas with no or little topsoil, the operator would, where possible, replace the coarser rock tailings material first and cover with finer material when available and seed. Additionally, dry ponds would be backfilled, but the freshwater pond, if not dry, would be evaluated for retention as wildlife habitat. If not needed it would be drained and backfilled.

2.3 No Action Alternative (Alternative #3)

For the No Action Alternative, Alternative #3 (Map 1, Page 1), the current mining activities would continue to take place under current and future Notices and would be limited to 5 acres and 1,000 tons of presumed ore material with equipment pursuant to 43 CFR 3809. The proponents are approaching these thresholds and therefore need a Plan to proceed with this mining operation. Therefore this alternative would require the operators to reclaim his site and not do any further mining at this site.

All activities have been covered in the Current Operations portion of this document. All access and reclamation would be the same as the proposed action on a five acre scale. No added Environmental Protection Measures would be added to this alternative since the notice-level work taking place is not a Federal action and is allowed by regulation under 43 CFR 3809.

2.4 Alternative Comparison

The alternatives that meet the Purpose and Need for the actions must be compared to allow the Authorized Office to make an informed decision. Table 2 provides a summary comparison among the alternatives.

Table 2: Comparisons of All Alternatives

	Proposed Action (Alternative #1)	Alternative #2	No Action Alternative (Alternative #3)
Mining disturbance, including roads in the project area boundary (acres)*	30 (new) 4 (existing)	35 (new) 4 (existing)	Up to 10 (existing across 2 notices)
Riparian disturbance, not including roads (acres)	0	0	0
Processed material (cubic yards per day)	80	80	25
Proposed use of existing roads (feet)	1,350	2,600	1,350
Proposed creation of temporary mining access (feet)	600	750	450
<p>* The mining disturbance is the total mining disturbance proposed for each alternative and is displayed in the three alternative maps (see Map 2, Map 3, and Map 4).</p> <p>Note: The material processed is dependent on the amount of paydirt, the speed of the washplant, and the amount of clay in the soil. Cubic yardage coming from a mining excavation includes topsoil, overburden and paydirt. Only paydirt is processed at the washplant, all the other material is put into temporary stockpiles until reclamation.</p>			

3.0 DESCRIPTION OF THE EXISTING ENVIRONMENT

This section describes the existing environment of the proposed project area and the elements which exist and may be affected by any alternative. The evaluation of effects to the existing environment is in the next section of this document.

The majority of the proposed action is on a north facing ridge with moderate to steep sloping, in the foothills northwest of Mormon Basin and along Clarks Creek. Depending on the alternative, there are varying acreages and degrees of work proposed. This area has intermittent streams that all flow into Clarks Creek, a perennial tributary to the Burnt River.

The critical elements of the human environment are subject to the requirements specified in statute, regulation, policy or executive order and must be considered in the proposed action and alternatives in all EAs (Table 1, page 5). The elements present within the project area have been addressed in this section; all others were considered but not further analyzed.

3.1 Existing Environment

a. Air and Atmospheric Values

The project area is located within the U.S. Environmental Protection Agency, Eastern Oregon Air Quality Control Region 10. The air quality in the area is generally good and typical of large rural areas within the Blue Mountains. Wind measurements for the site have not been recorded, but wind generally blows from west to east up the Burnt River Canyon.

The project area's main source of air contaminants is from windblown dust, both off rangeland to the north and south, mining operations surrounding the project area and from occasional traffic along dirt roads in the area. During the spring and summer months, dust storms, field burns, and wildfires may negatively affect air quality.

Climate Change

Several activities contribute to the phenomena of climate change, including emissions of Green House Gases (GHGs), especially carbon dioxide and methane from fossil fuel development, large wildfires, and activities using combustion engines; changes to the natural carbon cycle; and changes to radioactive forces and reflectivity (albedo). It is important to note that GHGs would have a sustained climatic impact over different temporal scales. For example, recent emissions of carbon dioxide can influence climate for 50 to 100 years. Once released, GHGs dissipate and soon become global in nature unless quickly isolated.

Current scientific assessments regarding climate change are more global and regional in scale and impacts and projections specific to the site specific project, are limited. Estimating precise quantitative changes in the local environment is not feasible at the moment but some general assumptions can be made. The project area is a mid-slope upland rangeland dominated by grasses and sagebrush plains vegetation. GHGs on rangelands can be isolated or emitted due to natural processes and/or management activities.

b. Cultural and Historical Resources

Pre-contact Context

Archaeological evidence indicates that northeast Oregon was inhabited by Native American people for millennia; with indications of occupation in the Oregon dating back as early as 14,500 years BP (Aikens et al. 2011). Sites that date from the earliest occupation of the region include base camps for seasonal hunting and gathering, lithic procurement, and plant gathering and processing. Prehistoric inhabitants hunted bison, mountain sheep, pronghorn, deer and elk, and other game.

Circa 5,000 years ago, housepit villages and specialized hunting and gathering sites appear in the archaeological record for the region, with evidence for increased sedentism and reliance on fishing. At the time of early historic contact, the mountainous areas and valleys were occupied and used, on a seasonal basis, by tribes of both the Columbia Plateau and Great Basin regions. These tribes include the Cayuse, Umatilla, Walla Walla, Nez Perce, Northern Paiute and Shoshone. Descriptions of the traditions of these tribes are provided in Stern (1998), Walker (1998), Fowler and Liljeblad (1986), Steward and Wheeler-Voegelin (1974) and Murphy and Murphy (1986).

Historic Context

National events have helped to mold the nature of historic resources within the Baker Resource Area. Early explorers and fur traders traversed the resource area, followed by missionaries, emigrants, miners, and military expeditions. Sites reflect the resources and activities that attracted Euro-Americans to the region from the 1840s into the first half of the 20th century. The Baker Resource Area contains historic features including transportation features such as historic trails and stage roads; mining and mining-related sites; and homesteads, ranches, and related facilities, including irrigation ditches.

Early prospecting in the area began in 1861 when a party of miners discovered gold in Griffin Gulch southwest of present day Baker City. A gold rush to the Blue Mountain region ensued, and the mining camp of Auburn was quickly established in Blue Canyon. Within three years, mining districts had been established throughout the present day Baker County region, in the Powder River, Burnt River, and Snake River drainages. These historic mining districts still contain remnants of past activities including prospects, shafts, adits, mining ditches, structures, foundations, and debris scatters. Historic placer and lode mining sites in the Burnt River area date from the late 1860s to the 1940s.

In the absence of a context statement for mining in northeast Oregon, a review of Baker County archival records and local literature was performed to provide background for evaluating the Towne Gulch historic mine in the context of historic mining on Clarks Creek in the Pioneer Mining District.

Clarks Creek Mining

After nearly all the gulches near Baker and Auburn were worked for their gold, prospectors explored previously unexploited tributaries of the Burnt River, including Clarks Creek.

Historic records indicate placer mining in the Burnt River/Clarks Creek area began in the 1860s and continued into the 1930s. The USGS map shows a Chinese community located in section 28, about 1 mile west of the mining community of Clarksville. Chinese mining and occupation in the area dates from the early 1870s, and may have continued to 1910. Mechanized dredging on Clarks Creek occurred in 1923-1933 (Koplin and Baumeister 1982, pg 13). Dredging continued up to 1939, when Pioneer Dredging Company operated on Clarks Creek with a 7.5 foot Marion electric dredge, claiming \$500,000 in value recovered. According to the operator, additional mining in the Clarks Creek area occurred in the 1940s.

Field Study Findings

Based on a preliminary review, expectations were that the mining claim would contain evidence of historic Euro-American mining and potential evidence of Chinese placer mining. Field reconnaissance of 4.4 acres of the mining claim on Towne Gulch occurred initially by Mary Oman (BFO staff archaeologist) during July of 2002, May of 2003 and April of 2004. This initial reconnaissance focused on the 4.4 acres of identified tailing features containing artifacts typically associated with immigrant Chinese occupation and mining, in addition to items of Euro-American manufacture. In 2003, BLM and SHPO agreed that the site was eligible for the National Register of Historic Places under criteria A and D. In accordance with 36CFR800.5(b), it was determined that the proposed undertaking will have no adverse effect on any listed or eligible historic property based on a phased data recovery treatment plan developed between SHPO and BLM. BLM has completed several phases of this plan and now has funding to complete the remaining phases prior to implementation of this Plan of Operation. As per the phases identified in the 2003 agreement, Erin Lewis (BLM archaeological Technician) intensively surveyed the entire 20 acre Paul Ada #2 claim in 2007. During this survey, additional cultural features were identified within the 4.4 acre site, but no additional resources were located outside of the already identified mine site. No pre-contact sites have been identified in the Paul Ada #2 claim area.

This plan of operation also proposes mining on an additional 17 acres of the adjacent Snappy Ben claim to the east. Alternative 2 proposes road access through the adjacent True claim to the west. These claims have not been previously surveyed. This 17 acre area will be surveyed for cultural resources during the fall of 2014 and any sites identified as historic properties will be avoided or mitigated, as determined appropriate during consultation with SHPO and consulting parties.

c. Resources of Importance to Native American Tribes

Three federally recognized Native American Tribes have indicated interest in the public lands managed in this area. The project area is outside of tribal ceded territory, but within the traditional area of interest for the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), Nez Perce and the Burns Paiute Tribe. Consultation is currently on going to identify concerns related to resources important to Native American Tribes. Generally resources of concern to the tribes include: specific plants, water resources, fish, and wildlife important for maintaining traditional lifeways and access to these resources.

Traditional Plants

Culturally significant vegetation has been used for medicinal purposes, food sources, fuel, creation of tools and hunting implements, horse or cattle feed, creation of dyes, basket weaving, clothing, and shelter. Some of these traditional uses continue today as tribes work to maintain important traditional practices.

A predictive model for certain types of culturally significant plants was developed for this area in 2009. The model identifies approximately 5.6 acres of suitable traditional plant habitat for the modeled species within the project area. None of the plants identified in the model were observed during BLM's May 7, 2014 botanical field survey. Results of the botanical field survey are included in Appendix C.

The level of past mining disturbance in Clarks Creek, dating back to the 1860s, has likely reduced or limited the relative abundance or potential for these cultural plants to grow along the Clarks Creek project area. The majority of the culturally significant plants identified during BLM plant surveys appears to be scattered around the project area and may be more abundant in other locations.

Access

Access to the proposed project area is well maintained via approximately 15 miles of county road and approximately 2,600 feet of BLM road. Currently, the 35 acre project area is open to tribal members (and the public) year around except when weather conditions make roads impassable. There may be some roads, closed to tribal members and public access during active operations to comply with safety requirements under MSHA.

d. Noxious and Non-Native Invasive Plants

An intensive inventory for noxious weed species was conducted for the project area during the spring and summer of 2014 totaling 4.86 acres with the largest infestations concentrated within the existing disturbance footprint. Diffuse knapweed (*Centaurea diffusa*), houndstongue (*Cynoglossum officinale*), and Scotch thistle (*Onopordum acanthium*) were distributed throughout the entire project area. Canada (*Cirsium arvense*) and bull (*Cirsium vulgare*) thistle were primarily located along the riparian area and settling ponds in the PaulAda #2 claim and Towne Gulch in the Snappy Ben claim, while whitetop (*Lepidium draba*) was located in the PaulAda #2 claim. Non-native annual grasses, namely cheatgrass (*Bromus tectorum*), were not mapped but concentrated within and around the existing mining disturbance. Biennial noxious weed species mapped include: 1.63 acres of diffuse knapweed, 0.13 acres of bull thistle, 2.81 acres of houndstongue, and 1.34 acres of Scotch thistle; perennial noxious weed species mapped include: 0.15 acres of whitetop and 0.23 acres of Canada thistle.¹

Historically, no weed treatments have occurred within the project area by BLM employees, through partnerships, or contracts. However, during the 2014 survey, biological control agents and signs of past biological control activity was observed on

¹ The discrepancy between infestation acreage totals is due to removing the duplication of overlapping infestations using Geographic Information System (GIS) technology.

diffuse knapweed. This is likely due to previous biological control releases along the Burnt River corridor with natural dispersal into the project area.

Future treatments will follow an integrated weed management approach encompassing biological, chemical, and manual control methods. At this time, under the 1987 court injunction, four active ingredients (2,4-D, dicamba, glyphosate, and picloram) are permitted for use on BLM lands in Oregon. A district-wide EA, tiered to the Vegetation Treatments Using Herbicides on BLM Lands in Oregon Final Environmental Impact Statement (USDI, 2010), is in preparation which would permit the use of more active ingredients and enable treatment of both noxious and invasive weed species.

e. Water Resources

The project area is located within the Burnt River –Creek subwatershed, which is further divided into 4 distinct drainages (Table 3).

Table 3: Hydrologic unit levels, divisions, names, codes, and square mileage for drainages within the project area.

Level	Division	HUC Name	Code	Square Miles
1	Region	Pacific Northwest	17	--
2	Subregion	Middle Snake	1705	36,700
3	Basin	Middle Snake - Powder	170502	4,100
4	Subbasin	Burnt	17050202	1,090

The Clarks Creek channel in its entirety is approximately 7 miles long. Under Alternative 2, a section of the existing proposed access road crosses Clarks Creek within the project area. The headwaters of Clarks Creek, which originate on the north side of Spirit Hill are on private land, but most of the stream flows along a county road through BLM managed lands.

Stream Flows

Towne Gulch has an intermittent flow regime meaning it does not have a year round flow. Clarks Creek, although not within the project area, is crossed by the existing access routes to the project area and is a perennial stream, running above ground year round. Towne Gulch, encompassing 1,172 acres, drains into Clarks Creek, which flows into the Burnt River and the Snake and finally the Columbia River to the ocean.

Peak flow, annual flow, and base flow of Towne Gulch, which flows through the project area, is reduced by primarily by evaporation and the upstream diversion (pipeline) for this mining project. Peak flow, annual flow, and base flow of Clarks Creek is reduced by evaporation, upstream diversions, including the pipeline for this project, and limited upstream reservoir storage. Flows of Clarks Creek are also altered by existing mining disturbance throughout its course, increasing peak flows in areas with little vegetation, but reducing in areas with pits, depressions or in channel process ponds.

Seeps/Springs/Ponds/Wetlands

No springs or seeps are found within the project area boundary. The settling ponds are not permanent and only contain water during operations. The freshwater pond, although

constructed during past mining operations, may represent groundwater recharge where the excavation intersects groundwater in Towne Gulch. No wetlands are found within the project area boundary, although the process ponds and freshwater pond intermittently have water when operations are being conducted.

Ground Water Hydrology

Groundwater information was developed for Clarks Creek and Towne Gulch from well logs and bedrock geology of the area. The proposed mining areas are on an upland bench and the depth to the water table is unknown. The proponent has not intersected groundwater during past mining operations and he does not anticipate doing so under the Plan. No wells or springs are located within the immediate project area, although the freshwater pond may represent groundwater recharge in the Towne Gulch drainage. The nearest known springs are located within Towne Gulch over one mile south of the project area. Three ground water wells are located on private lands to the west of the proposed plan of operations from ½ - 1 mile of the project area and are primarily utilized for placer mining operations. These three wells have static water levels between 13 and 82 feet, but are within the valley bottom along Clarks Creek.

Roads

Roads and the associated berms and ditches can channel water from rain and snowmelt. There is an extended network of roads in and around the project area. These roads have the potential to deliver water and sediment to streams, water bodies, floodplains, and wetlands during intense rainfall or snowmelt runoff. Issues identified in some of the roads were construction straight down ridges, excavation of the road surface below the land surface (entrenchment) and road features such as inside ditch, outside berm and parallel rut.

Fords and culverts are structures associated with roads that can directly impact the stream bed or channel. A ford is a shallow place where a river or stream may be crossed by wading or crossing in a vehicle. Fords can be a source of sediment in streams and two were identified on access route to the project area.

Culverts concentrate and channel water. Erosion issues can occur if culverts are improperly placed, incorrect size, or not properly maintained. One culvert and a pipe were found in the project area, open and functioning properly. An additional culvert needs to be replaced on the road which accesses the PaulAda #2 on BLM managed lands for proper drainage.

Water Quality

Information about water quality for Clarks Creek was obtained from the Oregon Water Quality Assessment 2010 Integrated Report. The entire stretch of Clarks Creek is listed for Dissolved Oxygen, Flow Modification, Habitat Modification, Sedimentation, and Temperature. Both Dissolved Oxygen and Sedimentation have insufficient data; habitat modification and flow modification have a status of water quality limited; and Temperature is at a Category 5 with limited water quality, on 303(d) list, needing a permit for TMDL (ODEQ, 2010).

303(d) Lists: Clarks Creek as a watershed is included on the 2010 list for Temperature, making this stream impaired for its designated use. The designated use for Clarks Creek is habitat for Redband or Lahontan Cutthroat Trout. Total Maximum Daily Loads (TMDLs) have not been developed yet for this portion of the Burnt River or Clarks Creek.

Based on water quality concerns for the Burnt River and Clarks Creek, further discussion is projected for Modifications and Temperature impairment in the project area.

Water Temperature: The BLM has no water temperature data for any drainage within the project area. However, site conditions and historical studies were used to estimate summer stream water temperatures before channel dry-up (i.e., daily maximum stream temperature in June-July) at a 7 day maximum of 20 degrees Celsius (68 degrees F). Historical study data indicates that water temperatures of low-elevation, low-discharge, intermittent streams in northeastern Oregon (including Clarks Creek) naturally exceed ODEQ's summer water temperature standards (ODEQ, 2010).

Water Use

Information on water use for the project area was obtained from OWRD's Water Rights Information Query (OWRD 2011d), sections containing Table 20b and related discussion and onsite-observations. Water use is described in water rights by the source, maximum rate/quantity, use, period of use allowed, point of diversion (POD), place of use (POU), and conveyance facility if any. Water rights are based on the location instead of the person holding them. In this case Art Lacey has a name on two of the water rights permits in the area, 46731 and 46733.

Table 4: Existing Mining Water Use Information for Clarks Creek from Water Rights.

Water Use ID: (Permit or Application #, Priority Date)	Source	Rate or Quantity	Use	POD location (T. 12 S., R. 41 E.)	POU location (T. 12 S., R. 41 E.)	POD, POU or pipelines in the Project Area
Permit 46731, 1982	Towne Gulch	1.0 cubic ft. per sec.	MI	Sec 34,	Sec. 27, 34	yes
Permit 46733, 1982	Clarks Creek	3.0 cubic ft. per sec.	MI	Div 1-sec. 26, Div 2-sec. 27	Sec. 26, 27, 28, 29, 31, 32, 33, 34 & T. 13 S., R. 41 E. sec. 5, 6	Yes
Certificate 65382, 1982	Clarks Creek	0.7 cubic ft. per sec.	MI	SWSE sec. 27	SWSESE sec. 27	Yes
Certificate 82509, 2006	Clarks Creek	Total 0.417	HU, MI	SESE sec. 27	SESE sec. 27	yes
*MI = Mining; HU = Household Use.						

The OWRD issues permits for water rights and in order to use the water for mining, must be designated as such a use in the permit. The permits in this area are all for mining and 0.005 cfs used for household use in one.

Stream and Riparian System Stability

Clarks Creek channel and riparian areas are influenced by grazing and mining activities. On both private and BLM, ground disturbing activities such as mining and grazing have altered banks and increased sedimentation leading to overly widened, poorly defined, depositional channels. Riparian communities along the Towne Gulch channel are in good condition. The road contributes to channel confinement and is a source of sediment. In areas with active mining, riparian communities are early seral due to recurring ground disturbance and high sedimentation. Grazed areas along Clarks Creek vary from poor to good condition based on bank stability, channel definition, and riparian vegetation age class structure, cover, and vigor. Large portions of the Clarks Creek drainage have been impacted by recent and historic mining activities which have caused changes in the channel morphology, bed structure, and vegetation.

f. Vegetation and Botany

The following vegetation objectives come from the Baker RMP (USDI 1989) and are used to determine the existing condition and desired future condition of the project area:

- Manage upland grass-shrub vegetation to achieve a mid-seral stage plant community.

The project area is dominated by mountain big sage (*Artemisia tridentata vaseyana*) communities having an understory of perennial grass species primarily Idaho fescue (*Festuca idahoensis*), bluebunch wheatgrass (*Pseudoroegneria spicata*), Sandberg bluegrass (*Poa secunda*), squirreltail (*Elymus elymoides*), Basin wildrye and localized areas of cheatgrass (*Bromus tectorum*) and other non-native annuals. Mountain big sagebrush communities occur at higher elevations that are wetter and cooler than other sagebrush communities found within the Baker Resource Area. These more favorable growing conditions result in higher native plant production and inhibits cheatgrass domination (Bunting *et al.* 1987; Ypsilantis 2003) thus increasing the probability of successful restoration. Riparian vegetation exists within the project area however mining is not proposed to remove vegetation within 20 feet of Towne Gulch. Therefore impacts to riparian vegetation will not be further analyzed. For a complete vegetation species list please refer to Biological Evaluation Report in Appendix C.

No threatened or endangered plant species listed under the Endangered Species Act were found within the project area. In a survey taken in June 2014, it was also found that there are no BLM listed Sensitive Plant Species.

g. Geology

The project area is on the southern edge of the Blue Mountain physiographic geologic province. The Blue Mountains province is comprised of five major terranes which originated in an ocean environment to the west. Each terrane contains a distinctive assemblage of rocks and fossils. These terranes collided with the North American craton from the late Triassic through late Cretaceous geologic time periods, 235 million years ago-65.5 million years ago (Orr and Orr, 2000).

This project area features undifferentiated Paleozoic and Mesozoic age rock units and many unconformities. The main rock units mapped in the project are two thirds of the lithologic subdivision of the Burnt River Schist assemblage of Gilluly (1937). Along Clarks Creek the map units shift between a mainly metamorphosed clastic sedimentary unit and a unit dominated by greenstone and greenschist from metamorphism of volcanic and volcanoclastic rocks. (Brooks, 1976).

Faulting occurs along this portion of the project area perpendicular to the Clarks Creek channel, trending northeasterly. The dip, or angle of tilt, in the bedrock layers of the area gently angles towards the southeast or away from the Burnt River.

h. Soils

The project area was mapped by the Natural Resources Conservation Service in a soil survey in 1997. The full set of maps with types and properties of soils listed can be found in Appendix D. The project area includes four different soil types: Encina Gravelly Silt Loam (2 to 12 percent slope), Encina Gravelly Silt Loam (12 to 35 percent slope), Nagle Silt Loam, and Xeric Torriothents.

All of these map units have listed vegetation which is similar to sagebrush steppe uplands. The majority of the project area is comprised of the Encina Gravelly Silt Loam (2 to 12 percent slope) which has a moderate permeability, with a slow to medium runoff, and a slight to moderate erosion hazard. The other soil types have a medium permeability with a moderate to high erosion potential. All soils have highly variable clay content with some potential for compaction reduced by their permeability. The soils in the project area have a moderate to low potential for wind erosion. The Xeric Torriothents soil type unit is mostly down along Clarks Creek itself and has a rapid runoff and is only moderately permeable. This unit has the highest erosion potential. These soils reflect the deeper bedrock geology composed of highly metamorphosed sedimentary rocks.

All maps and map unit descriptions are included in Appendix D.

i. Range Management

The project area is within the Meyer Gulch Allotment #01327. This allotment is 284 acres private land and 2,889 acres public land. The BLM public lands affected by this project would be approximately 10% of the 2,899 acres. This allotment is under the “Custodial” management category and is therefore, a low priority for facilitating grazing (USDI, 1989).

There is no set grazing system on this allotment; the permittee may graze any time as long as abuse to the public lands does not occur. It would be expected to see cows in the area from May 1st to October 30th annually. The 1989 RMP decision declares that the BLM should continue to authorize grazing on all grazeable land. No management objectives apply to a seasonal grazing allotment with “Custodial” management category.

Water supply for the livestock is from Clarks Creek on public lands and ponds from current and previous mining operations.

j. Wildlife and Special Status Species

Wildlife habitat types present and management considerations

This analysis describes the terrestrial wildlife species found in the project area and the effects of the alternatives on these species. Rather than addressing all the wildlife species found within the project area, discussions will focus on any federal threatened and endangered species, Bureau of Land Management (BLM) special status species, species of local importance, and neotropical migratory landbirds. The existing condition is described for each species, group of species, or habitat in which the species lives. Direct, indirect, and cumulative effects of alternatives are identified and discussed.

The Lacey project area is comprised of two claims (Paul Ada and Snappy Ben) that have distinctly different wildlife habitat values. Due to these differences Paul Ada and Snappy Ben claims will be analyzed separately.

Endangered Species Act Considerations (Endangered and Threatened Wildlife Species)

An endangered species is an animal or plant species listed under the ESA that is in danger of extinction throughout all or a significant portion of its range. A threatened species is an animal or plant species listed under the ESA that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. According to the best available records and field observations, no established federal species occur within the project site. There are a few unlisted species present are of concern to the USFWS, of which, some will be analyzed as part of the special status species listed for the BLM.

BLM special status wildlife and species of local importance

A special status species is an animal or plant species identified by the BLM for which species viability is a concern either 1) because of these species are predicted downward trend in population numbers or density, or 2) because of current or predicted downward trends in habitat capability that would reduce a species' existing distribution. There are two special status wildlife species (sage-grouse, golden eagles) known to breed on public land, uses public land for part of their life history requirements, or has potential habitat located within the project area. Within the project area there is also Species of local importance which are species that typically have no federal designation for conservation, but are important to tribes and other public interests within this project area these wildlife species are elk and deer.

Neotropical Migratory Bird Species (MBTA)

The project area provides habitat for neotropical migratory land birds (birds that migrate that are not waterfowl or birds associated with wetland areas) that prefer dry to riparian woodland forested areas (OR/WA PIF 2000). Migratory bird species use suitable habitat in this area for nesting, foraging, and resting as they pass through on their yearly migrations. Riparian woodland forest associated species present or grassland/sagebrush associated species present seasonally include horned lark (*Eremophila alpestris*), Brewer's sparrow (*Spizella breweri*), sage thrasher (*Oreoscoptes montanus*), loggerhead shrike (*Lanius ludovicianus*), and sage sparrow (*Amphispiza belli*). Woodland associated species that may be found within the amendment area or project boundaries include gray flycatcher (*Empidonax wrightii*), dusky flycatcher (*Empidonax oberholseri*), dark-eyed junco (*Junco hyemalis*), and chipping sparrow (*Spizella passerina*). Other species observed or expected to occur in the project area include American robin (*Turdus*

migratorius), and western meadowlark (*Sturnella neglecta*). Levels of conservation will depend on action alternatives described under the analysis portion of the EA.

Greater Sage-Grouse

Within this analysis the Oregon Conservation Strategy (ODFW 2011), 12 month finding from USFWS (USFWS 2011), and greater sage-grouse monographs (Knick and Connelly 2011) were used to develop alternatives and design features as well as contribute to the scientific background of this species. Greater sage-grouse (hereafter referred to as sage-grouse) represent a focal species for sagebrush conservation because they are sagebrush obligates that select habitats at multiple spatial scales (Stiver et al 2010). The sage-grouse is highly dependent upon the presence of sagebrush, notably Wyoming sagebrush, mountain big sagebrush, basin big sagebrush, low sagebrush and stiff sagebrush. The BLM has classified sage-grouse habitat into two categories: Preliminary Primary Habitat (PPH) and Preliminary General Habitat (PGH). PPH are areas that have been identified as having the highest conservation value to maintaining sustainable sage-grouse populations. These areas would include breeding, late brood-rearing, and winter concentration habitat. PGH areas of occupied seasonal or year-round habitat outside of priority habitat and have less management implications associated with it.

Within this project area there are no PPH areas; however, there are approximately 15 acres classified as PGH. Although PGH areas support seasonal/year-round sage-grouse habitat, upon survey conducted in May (2014), the PGH area was dominated by noxious weeds and mining disturbance which does not contribute to the life history needs of sage-grouse.

Eagles (bald and golden)

Golden eagles are large birds and are members of the booted or true eagle family. Habitat destruction and degradation, illegal shooting, and the contamination of its food source, largely as a consequence of DDT, decimated the eagle population. Golden eagles are protected under the Migratory Bird Treaty Act (MBTA) and the *Bald and Golden Eagle Act (Eagle Act)*.

There are no known bald eagle nest sites within the project area. The closest known bald eagle nest site is located by Unity Reservoir by the town site of Woodtick about 25 miles away. The closest known golden eagle nest is two miles away within the Burnt River Canyon. There are some large trees that eagles could use for perching and limited areas that could be used for foraging, but there are no cliff sites that would support nesting eagle pairs.

Big Game (deer and elk)

Elk and deer are the most prevalent big game species in northeastern Oregon and are an indicator of the quality and diversity of general forested habitat. Elk and deer exploit a variety of habitat types in all successional stages and use patterns change both daily and seasonally. This project area is located within critical winter range for big game. Both project sites offer habitat for these big game species; however, the condition of habitat varies by location. Paula Ada Claim is mostly dominated by weedy vegetation and has been worked extensively through a number of Notices and is considered low quality habitat. The Snappy Ben Claim offers areas that would contribute to the life history requirements of big game.

k. Fisheries

There are no perennial fish-bearing streams within the project area. The closest perennial fish-bearing stream to the project area is Clarks Creek, a tributary to the Burnt River, which lies to the north of the project area and is separated from the project area by private land comprised of mostly upland habitat with surficial geology that has been altered by historic mining activities. There are no streams that support ESA-listed threatened or endangered fish species within the project area or within the Burnt River subbasin.

Clarks Creek is presumed to support redband trout (*Oncorhynchus mykiss gairdneri*), a native migratory fish species listed as a Sensitive Species by the Oregon/Washington BLM and the Oregon Department of Fish and Wildlife (ODFW), and a Sensitive Species of Concern by the US Department of Fish and Wildlife (FWS). Redband trout presence within the Clarks Creek drainage is not currently documented, but its presumed presence is due to the documented historical presence of redband trout in the mainstem Burnt River.

Towne Gulch, an approximately 2 mile-long intermittent stream, and an approximately 2.5 mile-long unnamed intermittent stream are the only drainages that lie within the project area. Both of these drainages are tributaries to Clarks Creek and contain reaches with an interrupted flow regime, which is defined as a stream with discontinuities in space or where there is no defined stream channel at all; scoured reaches are discontinuous and uncommon, while the majority of flow within the drainage occurs in discontinuous well-vegetated riparian areas.

It is presumed that both drainages historically had a hydrological surface connection with Clarks Creek, but those connections have since been altered by historic mining activities (e.g., mine tailing piles), road development, and irrigation ditches. Both drainages also have such small acreage watersheds with low annual precipitation that they likely exhibit ephemeral flow under natural conditions. The portions of these drainages that lie within the project area are well-vegetated with discontinuous scour, indicating that these reaches function as ephemeral draws. Therefore, both Towne Gulch and the unnamed intermittent stream within the project area are not documented as or presumed to be fish-bearing streams.

l. Visual Resources, Access and Recreation

The project area is located in a Visual Resource Management (VRM) Class III/Class IV area (USDI, 1989). The objectives of these two VRM classes are primarily for general and more common landscapes which represent a low to moderate aesthetic value. The area associated with the project activities lies in an enclosed landscape of entrenched river meanders and smooth to rough textured landscapes of moderate to strong vertical aspects. Most of the project work would occur in the areas associated with the more gentle slopes consisting of smooth, low vegetation such as grasses and sagebrush to the moderate texture of the riparian vegetation. Some portions of this project may be seen from the main county road for a short duration of time as individuals travel along the Clarks Creek Road, however, this intermittent visibility would not attract the attention of the casual visitor nor would they dominate the viewshed of the project area. The majority of the disturbance in the proposed action would take place in areas that have either vegetative or terrain features that limit the visibility of the project to the casual observer.

The equipment used in the project and the disturbances made by the operation may be visible by the casual driver from the Clarks Creek county road on occasion for very short periods of time; however, the activities and visual intrusions witnessed would conform to visual objectives of the VRM Class III/Class IV areas.

Recreation and public uses within the area includes, but is not limited to, big-game and upland bird hunting, camping, fishing, OHV use, driving for pleasure including the Snake river-Mormon Basin Back Country Byway, and sight-seeing. General public access to the area in which the proposed project would occur is via Highway 245 over Dooley Mountain for 24 miles, up the Burnt River county road for 6.5 miles, and Clarks Creek county road approximately 3 miles, then a short mine access road. Another route to take would be the Interstate 84 towards Ontario and exit at Durkee, 16 miles up the Burnt River road out of Durkee, and then Clarks Creek county road to the mine access road. Public access to the BLM lands would continue except in areas of active operations where entry would create a safety hazard to general public land users.

m. Socioeconomic Resources

Baker County is located on the eastern edge of Oregon between Union County on the north and Malheur County to the south, both of which used to be part of Baker County. Baker City is the county seat and the county has a population just over 16,000 people.

History

Original settlers came off the Oregon Trail to settle near the Elkhorn Mountains and the southern end of the Wallowa Mountains for gold mining. Gold was reported discovered in Griffin Gulch to the south of Baker City in 1861 and by July 1862, there was a tent city of 1,000 men (Orr and Orr, 2000). There was an influx of people looking to make it rich in the 1860s, establishing Baker City in 1874. The original county seat of Baker County for 6 years was Auburn; a city built up from an active gold mining population and now considered a ghost town. Baker County was home to the Sumpter Valley gold dredge which is still on the outskirts of Sumpter in a state park along with the dredge piles for 6 miles along the Powder River. Once gold mining dwindled off in the 1950s, Baker County's economy switched to agriculture in the wide, fertile Powder River Valley.

Economy

The economy in Baker County now includes tourism, which has been growing in the last few years drawing people from all over the world. There have been a few national ghost hunting shows filmed within Baker County, Baker City has been listed as one of America's top small towns, Sumpter Valley Railroad is a tourist attraction along with the Sumpter Dredge State Park, and there are many activities during the summer including Miner's Jubilee, the Baker City Cycle Classic, and Hells Canyon Motorcycle Rally.

Demographics

As of the 2010 Census, the population of Baker County is 16,134, down from 16,741 in 2000. The median income for a household in 2000 for the county was \$30,367, and the median income for a family was \$36,106. About 14.70% of the population of the county was below the poverty line (Wikipedia, 2013).

n. Human Health and Safety, Hazardous Materials

In order to comply with Mining Safety and Health Administration (MSHA), this project area would be signed, warning public of the risks during active operations to minimize the safety hazards associated with mining activities. Minor amounts of hazardous petroleum products could be introduced to the environment from equipment break downs or repairs.

4.0 ENVIRONMENTAL CONSEQUENCES

The effects to Critical Elements from Table 1 are addressed in Section 4.1. Either because no significant impacts will occur due to the actions proposed in the alternatives, or because the individual Critical Element does not exist in the analysis area, these not discussed further.

Impacts are sometimes described using ranges of potential impacts or in qualitative terms, if appropriate. The intensities of impacts are also described, where possible, using the following guidance such as negligible, minor, moderate, or major.

Direct impacts are caused by an action and occur at the same time and place as the action. Indirect impacts are caused by the action and occur later or farther away but are still reasonably foreseeable. Duration is defined as short-term with impacts occurring or persisting less than three years, or long-term with impacts occurring or persisting for more than three years.

4.1 Critical Elements Considered But Not Evaluated Further

Air and Atmospheric Values

None of the alternatives would have any effects on Air and Atmospheric Values. Future potential drought and changes in precipitation amounts may force the use of more drought tolerant species in rehabilitation efforts on the uplands. Since the operator has addressed air quality by using water trucks to limit dust during operations and is not crushing material on site, the effects would be negligible and not be addressed further.

Regardless of the alternative analyzed, the two primary actions that could influence Greenhouse Gas (GHG) levels are the removal and replacement of vegetation and carbon stores in the ground over time and the direct tail pipe emissions from equipment used in the mining operations. At the peak of mining season, equipment would be running 8 hours a day releasing GHGs into the atmosphere. Based on analysis of various proposed activities in the 2011 Baker Field Office Draft RMP and Environmental Impact Statement, the size and scope of the proposed actions under this EA would only contribute negligible amounts (less than one-half of one percent) of annual GHGs to the Baker Resource Area.

Cumulatively, due to the global nature of GHGs, once released, all emissions may contribute to climate change to a certain extent. However, long term contribution from this proposed activity is negligible when compared to the total from other sources regionally and globally. Over time some carbon appropriation on the site would occur once operations cease. Anticipated effects of climate change itself on the resources on the site are not expected to occur at a rate to be a factor for several decades. Climate change would not be addressed in the rest of this document due to the negligible affects to resources.

T&E Plants

There are no threatened or endangered plants under the Threatened and Endangered Species Act observed in the project area and therefore will not be further evaluated in this document (see Vegetation and Botany Existing Environment).

Geology and Mineral Resources

The geology and mineral resources in the area would stay the same throughout the project. The only effect that any of the alternatives would have is removing gold which is a non-renewable resource as a valuable mineral which may be extracted from public lands as allowed by the 1872 Mining Law. The operations would have no effect on the bedrock geology in the area and all other effects of surficial geology would be addressed in the Soils section of this document. There would be no effect to salable or leasable minerals in this area since the project does not propose to extract common minerals or oil, gas, and geothermal resources and there are no existing leases on the land.

Range Management

Alternative #2 has proposed to put up temporary fences to prevent cattle from causing damage to reclaimed and seeded areas of the operation. Another option may be to limit cattle from being in this allotment during the 3-5 years of revegetation after reclamation. The maximum area fenced for any alternative would be 30 acres and would include processing site and reclaimed sites (vegetation regrowth areas with temporary fences). Alternative 2 would potentially result in the short term loss of up to 30 acres of forage over 3-5 years, but once the reclaimed vegetation is established and the fences removed this forage would again be available for livestock and wildlife grazing. Since all alternatives would have the same outcome regarding revegetation, there is no need to further address range management in the remainder of this document.

Fisheries

There are no threatened or endangered fish under the Threatened and Endangered Species Act observed in the project area or in areas directly adjacent to the project area. Also, due to the altered hydrography and hydrology of the stream drainages within and adjacent to the project area, and the fact that there are no perennial fish-bearing streams or intermittent streams with a direct hydrologic surface connection with a perennial stream within the project area, there will be no effect to redband trout and redband trout habitat as a result of the action alternatives. Therefore, the potential impacts of project activities to fish and fish habitat do not need to be further addressed in this document.

Visual Resources, Access and Recreation

Visual impacts during mining would be negligible to minimal. The mining and processing areas are not in prominent locations nor are they easily seen by the casual observer and therefore the proposed project would not violate the visual objectives identified for the area. Additionally, reclamation of the site to pre-mining condition would reestablish the landscape to some extent and therefore reducing the man-made intrusions of the area.

The roads accessing active operation project areas would be signed to provide for public health and safety and to meet mining safety regulations; however, access to the BLM lands in general would not be impacted. Recreational pursuits by the general public would still be available with

minimal to negligible impacts resulting from any safety restrictions imposed at the site during mining operations.

Maintenance of the roads by the operator may promote improved recreational access to the area once operations are complete; however, this improvement is not expected to increase visitation to the area. Impacts to the road network would be low on all access points due to regular maintenance of the county road by the Baker County Road Department. The access to the project area would still be open for other users of the public land in all alternatives with negligible impacts to public access; therefore access does not need to be addressed for the remainder of this document.

Socioeconomic Resources

All alternatives would slightly improve the local economy; however, overall it would be negligible due to the operators being from out of state. The resources extracted under this Plan would go for housing, food, and other living expenses by the miner. Therefore, the operations would directly and indirectly have positive effects on Baker County; however it is under less than one tenth of one percent.

Human Health and Safety-Hazardous Materials

The Spill and Containment Plan, attached to this report in Appendix B, has been approved by the ODEQ under an Individual Water Pollution Control Facility permit. The BLM would be notified in writing if more petroleum products are needed or stored on site for maintenance of the equipment. Mitigations for storage, use, and spill prevention are covered in the Spill and Containment Plan and would be made part of the approved Plan of Operation.

Human exposure to the petroleum products used during operations would be limited to miners in direct contact with the products. The operator is required to remove any soil on the project area affected by spills in an appropriate manner. The petroleum materials on site would have negligible effects to the environment and would be monitored under the Spill and Containment Plan for all alternatives, so it would no longer be addressed in this document.

4.2 Proposed Action (Alternative #1)

a. Cultural and Historical Resources

Magnitude of Impacts to Cultural Resources

The magnitude of impacts are described, where possible, and represent best professional judgment based on the available data from the cultural resource survey and testing completed in 2002-2008, and using the following guidance:

Negligible: Impacts to cultural resources would be so slight as to be barely measurable or perceptible, either beneficial or detrimental.

Minor: Impacts to cultural resources would be measurable and detectable, although they would be slight and localized to a small area (less than 10 acres) for a site or very small group of sites. The action would not affect the character or diminish the features of a NRHP eligible or listed site.

Moderate: Impacts on cultural resources would be measurable and readily perceptible. The actions could change one or more defining characteristics or features of the cultural property to the extent that its NRHP eligibility would be jeopardized or would have small but measurable or detectable, affects over a larger area (10 acres to 1,000 acres).

Major: Adverse impacts to cultural resources would be substantial, noticeable, and permanent. Actions would diminish the integrity and/or character of a site or multiple sites to the extent that they would no longer be eligible to the NRHP or actions could have small but measurable or detectable, affects over a very large area (1,000 or more acres).

Direct Effects

Mining activities under the proposed action would directly disturb 30 acres of ground including what remains of the Towne Gulch ditch feature, a contributing feature to this historic mine site. However, the proposed action would avoid the rest of the 4.4 acre historic mining site. Before mitigation, impacts for the proposed action would be long-term, moderate and adverse. However, in 2003, BLM and SHPO agreed that the site was eligible for the National Register of Historic Places under criteria A and D. In accordance with 36 CFR 800.5(b), it was determined that the proposed undertaking will have no adverse effect on any listed or eligible historic property based on a phased data recovery treatment plan developed between SHPO and BLM. BLM has complete several phases of this plan and now has funding to complete the remaining phases prior to implementation of this Plan of Operation.

Currently, it is unclear what affect the 17 acres of disturbance the mining project would have in the Snappy Ben Claim; however, cultural resource inventories will occur this fall to identify potential impacts. Identified sites will be avoided or mitigated as determined during consultation with SHPO and consulting parties. Therefore, the proposed project will have no adverse effects on historic properties.

Overall direct impacts to cultural resources would be long-term and negligible after mitigation, including the completion of the data recovery plan and any avoidance measures applied based on future identification and consultation.

Indirect Effects

Indirect effects to cultural resources as a result of the proposed action would be less extensive than alternative 2. Mining activities and traffic in the area could increase surface erosion and impacts from human activity. Vehicle traffic would be increased from current levels, but would be limited to the operators. Noise would increase due to the additional use of roads, increased levels of processing, and equipment needed for processing raw materials from a maximum of 35 acres. Also, the duration of the traffic and noise would be longer (approximately a 10 year time frame for the project) and likely more consistent on a weekly basis. This could impact historic properties if they are located within the viewshed and audible area of the proposed project and if the characteristics that make the properties eligible are affected by changes in the visual and

audible environment. BLM is currently not aware of any historic properties that contain these characteristics in the area; however consultation is on-going.

Overall indirect impacts would be long-term and minor to negligible.

b. Resources of Importance to Native American Tribes

Magnitude of Impacts to Resources Important to Native American Tribes

Impacts are assessed assuming compliance with Section 106 of the NHPA and government-to-government tribal consultation and identified mitigation. The magnitude of impacts are also described, where possible, using the following guidance for resources of importance to Native American Tribes:

Negligible: The impact to Native American areas of concern and access would be at the lowest levels of detection, barely measurable with any perceptible consequences, either beneficial or detrimental.

Minor: The impact on Native American areas of concern and access would be measurable or perceptible, but it would be slight and localized in a relatively small area (10 acres or less). The action would not affect the character or permanently impede access to traditional use or sacred areas. Impacts would have little effect on the integrity of traditional resources or traditional use areas.

Moderate: The impact would be measurable and perceptible. The action would change one or more characteristics or defining features of a property of traditional religious or cultural importance, sacred site or area containing desirable traditional resources. Access and availability of sacred or traditional use areas or traditional resources would be affected and could cause changes in traditional use patterns.

Major: The impact on resources of importance to Native Americans would be substantial, noticeable, and permanent. The action would change or affect one or more character defining features of a traditional resource or traditional use areas; diminish the integrity of the resource to the extent that it no longer would be able to sustain traditional or sacred uses; or prevent access to sacred or traditional use areas.

Direct Effects

Traditional Plants: Traditional plants of interest, to local and regional tribes, have been noted to occur within the project area; however exact quantities are unknown because density and frequency surveys were not completed. Currently, BLM is not aware of any local or regional tribes utilizing the area for plant procurement; however, consultation on this project is still occurring. Based on visual surveys and professional opinion of the botanist, BLM believes that the quantity and type of traditional plants located in this area do not make the area unique for resource procurement when compared to other similar BLM parcels. Mining of the Clarks Creek area has taken place since the 1860s and has led to extensive ground disturbance over time. In many areas, vegetation is coming back, but past impacts likely have reduced the overall abundance of native plants and contributed to weedy species noted in the Botanical Survey (Appendix C). Therefore, the temporary removal of vegetation on 35 acres, including 5.6 acres of potential habitat, under the proposed action would have long-term, minor impacts on traditional plants.

Wildlife and Fish Habitat: The proposed action includes the temporary removal of 35 acres of wildlife habitat for mining and processing. This would decrease the amount of wintering habitat that is available for big game and general wildlife. However, lands adjacent to the project area would support big game and general wildlife species habitat assisting in their lifecycle needs. Wildlife would disperse into areas not being impacted by mining activity. Once the area is reclaimed, wildlife would begin to inhabit the project area once again. Adverse direct impacts, from the proposed action, to big game and general wildlife habitat would be minor in magnitude (see Wildlife and Special Status Species).

There is no fish habitat within the project area; however Clarks Creek is adjacent to the project area and is listed for redband trout.

Access: Approximately 10 miles of county road running generally east to west, on the north side of the project area would remain open and would adequately allow for access to the BLM lands in the area. However, approximately ½ additional mile of BLM road would be closed to through traffic during active operations for public safety and would require checking in with the operator and compliance with MSHA safety requirements for access. These safety closures could disrupt the access to specific locations on public lands within the project area for the short and long term. Safety requirements would be in place for the duration of the proposed ten year mining period. Notice level operations have been occurring in the area for more than ten years and access to this area has already been impacted by mining activity. Direct impacts to access due to the plan of operation would be minor to negligible.

Indirect Effects

Traditional Plants: If areas of resource procurement are present, the noise, traffic and changes to visuals could detract from procurement activities in the area. However, high levels of noise, traffic and visual impacts have existed in this area, for more than ten years, due to notice level mining and adjacent private land mining. Currently, BLM is not aware of any local or regional tribes utilizing the area for resource procurement; however, consultation is still on-going. Indirect impacts would be long-term and minor to negligible.

Wildlife Habitat and Fisheries: There would be no indirect effects to wildlife habitat or fisheries.

Access: The proposed action would create a slight increase to the overall traffic utilizing the roads adjacent to, but outside the project area. Indirect impacts from this alternative would be minor to negligible.

c. Noxious and Non-Native Invasive Plants

The magnitude of impacts to noxious and non-native invasive plants is defined as follows in the 2011 Draft Baker Resource Management Plan:

Negligible: The introduction and/or spread of noxious weeds and invasive plants would not be appreciably affected by management actions, including those that would

increase or decrease ground disturbance, or those that have the potential to introduce or prevent the introduction of weeds. Negligible effect would be difficult to detect and it would not be clear that a particular management action was responsible for the increase or decrease in the level of weeds.

Minor: The introduction and/or spread of noxious weeds and invasive plants would be slight due to management actions, including those that would increase or decrease ground disturbance, or those that have the potential to introduce or prevent the introduction of weeds. Impacts would be small but detectable. The likelihood of being able to restore an impacted area to a desired, pre-infestation condition would be high. Beneficial effects would result in conditions where existing weeds are contained and new introductions are reduced. Adverse effects would result in conditions where existing weeds would not be completely controlled, infestations are spreading, and new introductions occur.

Moderate: The introduction and/or spread of noxious weeds and invasive plants would be readily apparent due to management actions, including those that would increase or decrease ground disturbance, or those that have the potential to introduce or prevent the introduction of weeds. Impacts would be difficult to mitigate, although the ability to restore an area to a pre-infestation desired condition would be possible. Beneficial effects would result in conditions where existing weeds would be controlled and not spread further. New introductions would be minimal. Adverse effects would result in conditions where existing weed infestations persist and spread, and where new introductions would increase.

Major: The introduction and/or spread of noxious weeds and invasive plants would be clearly apparent and would be substantially affected by management actions, including those that would increase or decrease ground disturbance, or those that have the potential to introduce or prevent the introduction of weeds. Weed infestation would not respond well to mitigation measures and would occur even with Best Management Practices (EPMs) in place. Restoring an area to pre-infestation desired condition would be very difficult or nearly impossible. Beneficial effect would result in conditions where existing weeds would be nearly or completely eradicated, new introductions would be nearly or completely eliminated, and areas would be restored to ideal or nearly ideal desired conditions. Adverse effect would result in conditions where existing weed infestations would not be controlled and would expand rapidly. As a result, new introductions would be common place.

Direct Effects

Noxious weeds and other non-native invasive plants are excellent pioneering species, are often the first species to establish after ground disturbing activities, and are able to invade previously undisturbed habitats (Larson et al. 1997). The potential for noxious and non-native invasive species seeds and propagules to gain access to areas of bare soil, through ground-disturbing activities in the Paul Ada #2 and Snappy Ben project area is high. Seeds and propagules are easily transported by heavy equipment, vehicles, people, wildlife, wind, and water. Once established on site, weed species are difficult to control due to their great competitive ability for resources, prolific seed production, more than one means of reproduction, and long seed dormancy (Zimdahl 2007) enabling them to spread throughout project locations and along travel corridors.

The overall ground disturbance under Alternative 1 totals 35 acres with approximately 5 acres of existing disturbance, including a single processing site, and 30 acres of newly proposed disturbance occurring over several years (see Table 2). Up to one acre of ground related mining disturbance and subsequent bare soil, will occur annually. Many noxious and non-native invasive weed infestations cannot be avoided. Initial ground disturbance for some annual and biennial species may provide beneficial effects through mechanical control; however, continued disturbance and bare soils would make these areas susceptible to invasion. Perennial species, namely Canada thistle, located in settling ponds have a high probability of infesting reclaimed areas via propagules when used as growth medium to fill recently mined areas. Additionally, whitetop has a high potential to move to new areas through hauling and mining activities en route to processing sites via seeds and root fragments.

Noxious and non-native invasive weed species are expected to increase. Seventy five percent of the project area is predicted to be disturbed through mining activity. Roughly 12% of the project area is infested with noxious weeds, which provide an existing seed and propagule source to invade newly disturbed areas. Environmental protection measures required by the BLM (see p. 14) are in place that would minimize the introduction of new species to the project area; however, these measures would likely not minimize the spread of noxious weeds within the project area itself. The direct effects are site-specific, minor to moderate, long-term, and adverse.

Reclamation would take place concurrently with mining. Topsoil would be stockpiled, and reclamation would take place each fall. Bare soil would be seeded with a BLM approved seed mix which will be certified all states noxious weed free, with the intent of establishing a vegetative cover by the following spring. These efforts strive to reduce the amount of bare soil vulnerable to noxious and non-native invasive weed seeds and propagules. Ongoing treatment of known and newly discovered sites and constant monitoring in conjunction with seeding is critical for mitigating adverse effects and moving towards a successful restoration.

Indirect Effects

Noxious weed seeds and plant parts are known to be carried by vehicles and on machinery to invade new locations (DiTomaso 2000). Under this alternative, an additional 600 feet of roads will be constructed (Table 2). The project area access will be confined to a single entry point via private land and all mined material will be hauled and processed at a single site, thereby concentrating equipment traffic and reducing overland travel. Indirect effects under Alternative 1 are negligible to minor, adverse, long-term, and site-specific.

d. Water Resources

A summary of the effects standards for both Water Resources and Soils from the 2011 Draft RMP are below:

Negligible: Impacts to water resources and soils would be at or below the level of detection, and changes would be so slight that they would not be of measureable or perceptible consequence.

Minor: Impacts to water resources and soils would be detectable but localized, small and of little consequence. Mitigating measures, if needed to offset adverse effects, would be simple and fully successful.

Moderate: Impacts to water resources and soils would be readily detectable and localized, with potential consequences to the water resources and soils of the surrounding area. Mitigating measures, if needed to offset adverse effects, would be extensive and would be somewhat successful.

Major: Impacts to water resources and soils would be obvious and would result in substantial consequences to the ground water, streams, springs, riparian areas, and soils in the area. Extensive mitigating measures would be needed to offset adverse effects, and their success would not be guaranteed. Actions that would likely result in effects on the water resources and soils of the area, would be so severe that action would not be authorized or undertaken.

The water resources of Clarks Creek have been affected by mining activities since the 1860s. This is evident by the Water Right Certificate 5880 which was established in 1868 for 2.5 cfs for mining and is for year-long use. Mining has occurred in this area from that time until present. The previous mining activity established roads, channels, ponds, and reservoirs.

Under all alternatives access roads would be used contributing water and sediment to the drainages. There would be excavation, removal and stock pile of soils and subsurface material. The disturbance and depth of extraction varies from surface to 60 feet. The excavation and removal of the soil would break up the soil profile. Soils would be removed and stored separately from the subsoil and overburden. There would be utilization of existing processing sites and ponds. Disturbances from mining would occur in half acre tracts at a time, with up to four of these per year, or two acres new mining disturbance. The existing process area and pad area is approximately four acres, so up to five acres open disturbance could be active at one time.

Water Use: There are two water rights associated with the PaulAda #2 and Snappy Ben claims and these provide Points of Diversion (PODs) and Points of Use (POUs) for the mining action (see Table 4, page 36). Water for the mining operations is supplied by 2 pipelines, one pumped up hill from Clarks Creek and the other gravity drained downhill from Towne Gulch. As previously mentioned Water Right Certificate 5880 on Clarks Creek was issued for 2.5 cfs for mining. Therefore, this one water right is 0.62 cfs more than the stream is capable of producing under normal conditions. Under existing water rights and under all alternatives surface water use actual and potential may exceed the normal production capacity of the drainage.

The washing and grading of the soils would change the infiltration rate of the soil profiles. Vehicles crush and compact road surface materials. Roads channel precipitation and snow melt if it exceeds the infiltration rate of the road surface. For the duration of the exposure of the half acre parcels during the mining process there would be greater erosion from and infiltration. Coarser materials would channel water into

different layers of soils and water would channel along bedrock if exposed. Retaining the existing level pad area in operations should catch most of the sediment generated from upgradient activity, lessening the amount of flow and sedimentation off of the site.

Streams: Alternative 1 could potentially disturb up to one acre of riparian vegetation found along Towne Gulch. The proponent has proposed a 20 foot buffer along this channel to decrease the impacts from mining activity. Disturbance outside the buffer to the stream channel would add to the existing disturbance by previous mining operations. Although surface flow in Towne Gulch is intermittent, previous disturbances in the channel have changed the stream bed and channel characteristics causing the water to flow below the surface in areas. The existing access road on private land across the private land fords Clarks Creek at an unarmored crossing. Because of the short term removal of vegetation from the new mining areas, a short term increase in sedimentation from the mine site would be expected.

Pipelines: The primary concern is the design, construction, and maintenance of any pipelines and associated maintenance access. Alternative 1 would have the greatest impact to Clarks Creek channel because of the higher rate of access along the road which runs along Towne Gulch. PVC piping isn't as weather resistant compared to other materials; therefore the probability of this pipeline to fail is greater than if other types of piping were used.

Pond/Reservoirs: Alternative 1 calls for the continued use of the existing ponds for water supply and settling. The settling system consisting of multiple ponds would address the sediment leaving the site and entering Clarks Creek by removing suspended sediments which occur in the processing of placer material.

Wetlands, Springs: The mining process includes stripping top soil and overburden to the pay dirt along the bedrock to an estimated depth of 10 to 60 feet. In the process of stripping material to bedrock, water-bearing soil layers may be encountered. The stripping may cause alteration of water flow through the soil layers and decrease available water in springs and wetlands. Although no springs occur within the project area, a groundwater fed freshwater pond in Towne Gulch is being used in operations. The plan of operations does not propose altering this pond and no additional impacts to this pond are anticipated.

Vegetation: The change in soils and water infiltration rates due to mixing of soil layers would affect the vegetative community. Vegetation reduces the impact of precipitation and assists in holding water in the soil in both uplands and riparian settings. Removal of the vegetation and replacement in reclamation would expose the soils to greater erosion over the course of operations. Within the stream channel vegetation filters sediment, provides shade and provides organic material for the system. Due to growth characteristics of different plant species it may take up to 30 years to reestablish the vegetative community currently existing after mining. The effects of vegetation removal would be moderate until the growth was re-established.

Riparian Areas: Alternative 1 could have the greatest impact on the riparian resources in the area due to the activities in one acre of riparian vegetation in Towne Gulch. Although

the operator has proposed a 20 foot buffer along Towne Gulch, vegetation outside of the buffer could be removed from the areas, soil would be relocated and the channel shape and structure would be changed affecting the water available both surface and subsurface for vegetation in the areas.

Effects to water resources from this alternative are expected to be minor to moderate adverse, primarily based on the short term removal of vegetation and resultant increase of peak flow throughout the mining area and possible impacts to riparian vegetation within Towne Gulch.

e. Soils

Impacts common to all alternatives

Vegetation would be removed and excavation of soil and subsoil during mining activities prior to processing of paydirt material. The removal of vegetation would expose the soil to greater erosion for the period before reclamation and vegetative cover is reestablished. In the process of removing the soil, layers would be separated and washed causing a change in texture, structure, and permeability creating an increase in the potential for erosion. The change in soil texture and composition would affect the establishment of vegetation on the reclamation sites.

Fords and Culverts: There are stream crossings in all alternatives which are either in the form of a ford or a culvert. Fords can contribute to erosion if they are not designed, and armored properly. This is primarily due to the wave action when water is present and the compaction and movement of bed material when dry. Culverts can focus sediment flows from road ditches into a stream channel. All alternatives have both culverts and fords, therefore the only difference would be the length of the roads.

Roads: Roads impact soils in the area under all alternatives by channeling water and snow melt and providing concentration points at culverts and fords for water and sediment. In addition, under dry conditions roads break up soil profiles and create dust. Table 2 provides a comparison of the amount of roads by alternative. Alternative 1 would have the least amount of maintained roads.

The effects to soils would be moderately adverse for all alternatives due to the remixing and the high potential for erosion, soil compaction, and disturbance of the natural layering of the soils.

f. Wildlife and Special Status Species

Assumptions common to all action alternatives

When analyzing effects to wildlife and special status species, the following standards from the 2011 Draft RMP are used:

Negligible: Impacts on wildlife species would be at or below the level of detection, and the changes would be so slight that they would not be of any measurable or perceptible consequence to individuals or the population as a whole.

Minor: Impacts on wildlife species would be detectable but localized, small, and of little consequence to the population of any species. Mitigating measures, if needed to offset adverse effects, would be simple and successful.

Moderate: Impacts on special status wildlife would be readily detectable and localized, with potential consequences at the population level. Mitigating measures, if needed to offset adverse effects, would be extensive and would probably be successful.

Major: Impacts on special status wildlife would be obvious and would result in substantial consequences to the populations in the region. Extensive mitigating measures would be needed to offset adverse effects, and their success would not be guaranteed. Actions that would likely result in effects to special status species of this severity would not be authorized or undertaken.

Direct Impacts

Due to the small project scale the impacts for sage-grouse, eagles, big game, and neotropical and migratory birds will be similar. The project area consists of two claims (Paula Ada and Snappy Ben) that are approximately 15 acres each. The Paul Ada Claim is within PGH habitat and is predominately dominated by non-native invasive and noxious weed species; which is not beneficial for sage-grouse or other wildlife species life history needs. Under Alternative 1, the Paula Ada Claim would be fully mined except for 4 acres that have archeological values. Through the course of the plan of operation, Snappy Ben would also be mined. Overall Snappy Ben is in better ecological condition and would support the life history needs of wildlife. Because of the lack of habitat and the displacement of wildlife because of historic and current mining activity, this project would have short-term adverse impacts that are negligible to minor in magnitude. However, after Alternative 1 has met the reclamation standards, beneficial impacts for wildlife habitat are expected. Reclamation would facilitate native grasses in an area that is currently dominated by non-native invasive and noxious weed species. Native grasses instead of non-native or invasive vegetation would enhance habitat for the wildlife using this area. Therefore after reclamation, long-term impacts would be beneficial and negligible to minor in magnitude. Beneficial impacts are expected to be realized 10-15 years after reclamation.

g. Vegetation

Under alternative 1, 25 acres of new disturbance (in addition to the existing 5 acres) of native disturbance would be disturbed and temporarily lost resulting in negligible adverse impacts to vegetation resources. Once mining ceases reclamation would occur and desirable vegetation would once again dominate the site.

4.2 Alternative to the Proposed Action (Alternative #2)

a. Cultural and Historical Resources

Direct Effects

Mining activities under Alternative 2 would directly disturb an additional 4.4 acres including a historic mine and Chinese habitation site. Prior to mitigation, impacts from Alternative 2 would be long-term, major and adverse. However, in 2003, BLM and SHPO agreed that the site was eligible for the National Register of Historic Places under

criteria A and D. In accordance with 36 CFR 800.5(b), it was determined that the proposed undertaking will have no adverse effect on any listed or eligible historic property based on a phased data recovery treatment plan developed between SHPO and BLM. BLM has complete several phases of this plan and now has funding to complete the remaining phases prior to implementation of this Plan of Operation.

Currently, it is unclear what affect the 17 acres of disturbance the mining project would have in the Snappy Ben Claim and the addition of access through the True claim to the west; however, cultural resource surveys will occur this fall to identify potential impacts. Identified sites will be avoided or mitigated as determined during consultation with SHPO and consulting parties. Therefore, the proposed project will have no adverse effects on historic properties.

Overall direct impacts to cultural resources would be long-term and minor to negligible after mitigation, including the completion of the data recovery plan and any avoidance measures are applied based on future identification and consultation.

Indirect Effects

Indirect effects to cultural resources would be similar to the proposed action, except visual alterations to the landscape would be increased by 4.4 acres.

Overall indirect impacts would be long-term and minor.

b. Resources Important to Native American Tribes

Direct Effects

Traditional Plants: Alternative 2 would have the same direct effects as the proposed action, except 4.4 more acres of vegetation would be removed. This vegetation includes a few trees scattered across tailings piles. Overall impacts would be long-term and negligible to minor.

Wildlife Habitat: This alternative would have the same effects as the proposed action.

Access: Impacts to tribal access under Alternative 2 would be the same as the proposed action. Impacts would be minor to moderate.

Indirect Effects

Traditional Plants: This alternative would have the same indirect effects to traditional plants as the proposed action.

Wildlife and Fish Habitat: There would be no indirect effects to wildlife habitat from Alternative 2.

Access: The indirect effects would be the same as the proposed action.

c. Noxious and Non-Native Invasive Plants

Direct Effects

Compared to Alternative 1, this alternative has more total mining acreage with 5 acres of existing ground disturbance and 35 acres (88% of the project area) of new disturbance for a total of approximately 40 acres (see Table 2). The time frame, mining strategy, and noxious and non-native plant control efforts are similar to those described in Alternative 1. Direct impacts are expected to be minor to moderate, site-specific, long-term, and adverse.

Reclamation efforts and environmental protection measures are same as those described in Alternative 1 with additional measures targeted at minimizing noxious and non-native weed spread within the project area (see p. 16). Noxious and non-native invasive weed control, will concurrently take place with mining related ground disturbance and reclamation efforts.

Indirect Effects

Compared to Alternative 1, this alternative has slightly more ground disturbance with 1,800 feet of new roads, hauling on 2,600 feet of existing roads, and an access route on BLM land through the True Mine mining claim located to the west. Processing will take place at one site as described in Alternative 1. Indirect impacts are expected to be negligible to minor, adverse, long-term, and site-specific.

The environmental protection measures in place aim to minimize new weed species introductions into the project area, as well as minimize the spread of existing weed infestations within the project area boundary by emphasizing the maintenance of travel corridors and reclamation areas in a weed free state through ongoing treatment and monitoring (see p. 18).

d. Water Resources

Resources in the areas of Total Maximum Daily Load (TMDL), road drainage, water use, precipitation, and ground water all would be affected the same way by the mining operations for all alternatives.

Under Alternative 2 there would be a minimal amount of riparian area affected. The access route proposed under Alternative 2 is an existing road on public lands that crosses Clarks Creek. This ford has been armored by another claimant. No other impacts are anticipated at this crossing under Alternative 2, unless the ford is washed out and requires maintenance. This access road also crosses an intermittent channel along Clarks Creek that at one time had a culvert to allow flow under the road and preventing the backing up of water behind the road. To protect the road and allow flow through this channel, a properly sized culvert would be installed.

Although Towne Gulch is an intermittent stream, riparian vegetation of approximately one acre is found along the bottom of the channel. Under Alternative 2 the proponent proposes a 20 foot buffer on both sides of the channel which would decrease impacts on riparian vegetation. The freshwater pond, which appears to be a permanent ground water fed pond, would not be altered under this alternative. Alternative 2 also proposes five additional acres of mining in an area heavily disturbed by past mining activity. Effects to

surface water resources from this alternative are expected to be the same as under Alternative 1, which would be moderate adverse. Since new mining activity is not anticipated to intersect groundwater, impacts to groundwater resources would be minimal.

e. Soils

The impact of Alternative 2 would be the disturbance of 35 acres. Alternative 2 would have the greater impact than Alternatives 1 and 3 due to more feet of temporary roads being utilized, greater disturbance areas, and amount of soil compaction.

Under Alternative 2, selective mining of up to five acres of the historic mine tailings area could occur. In areas where the historic cobble tailings are thin enough to excavate through to the unmined gravels below, there is a possibility that the reclamation of these areas could be done in a way that the cobbly material is replaced into the excavation first and the processed gravels with fines is placed on top providing a better growth medium which could increase vegetative growth in this area and represent a minor beneficial impact (reversing the existing soil profile).

f. Wildlife and Special Status Species

Impacts are the same as Alternative 1, however in Alternative 2 up to 4 additional acres could be mined where there are archeological concerns. Impacts after reclamation would be long-term, beneficial that is negligible to minor in magnitude.

g. Vegetation

Same as Alternative 1 except and additional 4.5 acres would be mined which would result in negligible adverse impacts to vegetation resources.

4.3 No Action Alternative (Alternative #3)

a. Cultural and Historical Resources

Direct Effects

No impacts would occur to cultural resources that are eligible or potentially eligible to the National Register of Historic Places (NRHP). Reclamation under the existing Notice (OR-65968) would be required because the operator is close to exceeding the threshold of five acres disturbance or 1,000 tons of processed ore (43 CFR 3809.11).

Overall direct impacts to cultural resources would be long-term and negligible to minor.

Indirect Effects

Indirect effects to cultural resources as a result of the No Action alternative would be short-term and minor. Environmental factors, including surface erosion and weather-related deterioration from the use of roads and use of water would continue to impact cultural resources in the project area. Noise, traffic and visible alterations to the landscape associated with mining under the Notices would continue to impact the area, but levels would be limited. New visual alterations to the landscape would be limited to 10 acres for the Notices. Noise and traffic from mining staff working the Notices would

be at the lowest level of the 3 alternatives and would consist of approximately 1 to 3 vehicles, the operation of mining equipment at the 2 processing sites and operations of equipment at the 1 acre (or less) testing areas.

b. Resources of Importance to Native American Tribes

Direct Effects

Traditional Plants: Impacts under this alternative would be limited to 10 acres of disturbance and could include the 5.6 acres of modeled habitat. Overall impacts would be long-term and negligible to minor.

Wildlife Habitat: The No Action alternative would temporarily remove 10 acres of vegetated wildlife habitat. Although the foot print of this alternative would be small, the ratio of disturbance would be larger, when associated with ambient noise due to processing the material. Adverse impacts to general wildlife species, as a resource of importance to Native American tribes, would be moderate in magnitude.

Big game within the area would most likely disperse to other areas for the duration of operations. Areas adjacent to the project area would support big game habitat for their lifecycle needs. Tribal members wanting to exercise their treaty rights would not utilize this area as much if the wildlife they disperse to other areas. Impacts from the No Action alternative would be negligible to minor in magnitude.

Access: Under this alternative, 10 acres would have restricted access during active mining. Impacts would be short-term and negligible.

Indirect Effects

Impacts for the No Action alternative would be short-term and negligible for traditional plants. There would be no indirect effects for wildlife habitat or access for tribal purposes.

c. Noxious and Non-Native Invasive Plants

Direct Effects

The current Notice of Intent allows small scale mining and the use of an existing processing site, most of which are concentrated within the existing five acre disturbance footprint (see Table 2). Mining related ground disturbance, including the processing site, will not exceed 10 acres. With the exception of hand pulling noxious weeds, no weed control plan or environmental protection measures are in place.

In comparison with Alternatives 1 and 2, this alternative has the least amount of ground disturbance in regards to mining and processing site activity. Reclamation requirements are the same as those described in Alternatives 1 and 2. Direct impacts are expected to be minor, site-specific, long-term, and adverse.

Indirect Effects

Under this alternative, existing roads, access to the project area, and reclamation would be the same as Alternative 1. The creation of new roads is the least among alternatives at

450 feet (see table 2). Indirect impacts are expected to be negligible to minor, adverse, long-term, and site specific.

d. Water Resources

Under Alternative 3 there could be continued impacts to the riparian area along Towne Gulch. This would include continued water diversion from Towne Gulch and the continued use of the freshwater pond. This would represent a continued moderate impact. Water diversion from Clarks Creek via the pipeline across private lands would also continue. Under the No Action alternative, impacts would be similar for roads and soil compaction at a lesser scale to Alternative 2. Due to the allowed disturbance of 10 acres total under the Notices, disturbance of all areas in the proposed expansion would be less. Since there is less volume being processed the water use would not be nearly as great as Alternatives 1 & 2. Alternative 3 would not expand the operations in the riparian areas and would have minimal additional impacts to the riparian resources.

e. Soils

Alternative 3 would continue the current operations of 10 proposed acres of mining disturbance under two Notices. Therefore, there would be little to no additional impact to the project area. Impact to soil compaction would be limited to roads and the camping area, which have slightly less use for the current operations.

f. Wildlife and Special Status Species

This project area has been disturbed in the past through a series of mining Notices. Only 10 acres can be worked under mining Notice and this area is approaching set limits. Although Snappy Ben is in better ecological condition, both claim sites have non-native invasive and noxious weed species. Without BLM intervention, weedy species would continue to spread and establish any disturbed sites in or adjacent to the project area. Weed establishment would reduce overall wildlife diversity within the project area. Alternative 3 would have long-term negative impacts that are negligible to minor in magnitude.

g. Vegetation

Under this alternative, mining would still occur under the existing two notices, which would create a maximum of 10 acres disturbance. Once this threshold is reached, the disturbed areas would be reclaimed with desirable vegetation. Due to the site potential of this area, the BLM believes that reclamation success will be high. Due to the smaller area being reclaimed as opposed to Alternatives #1 and #2 would be beneficial and negligible.

4.4 Cumulative Impact Analysis Including Past, Present, and Future Actions

Cumulative impacts are the effects on the environment that result from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time.

a. Evaluation of Potential Cumulative Impacts

Cultural Resources

Impacts to cultural resources in the past have occurred from unauthorized collection and excavation, and from inadvertent destruction of cultural resource sites and artifacts from mineral exploration and mining and other developments. Impacts from past mining actions were moderate to major in some areas; as mining has occurred to different degrees in the Clarks Creek area since the 1880's. The majority of the cultural resources identified within the Clarks Creek project area are associated with past mining episodes. Since the passage of the National Historic Preservation Act (NHPA) in 1966, most impacts from authorized actions have been avoided or mitigated and thus, impacts to cultural resources within the geographic scope of this project would be considered major in the present.

Cumulative effects are expected to be moderate to major. Mining on surrounding private lands and livestock grazing both on private and public lands could potentially impact cultural resources; however, compliance with Section 106 of the NHPA of past or foreseeable actions would mitigate any impacts to historic properties on public lands.

Increased activity and traffic from the projects above could increase surface erosion and impacts from human activity, such as collection. Cumulative effects could also result in an increase in noise and visible alterations to the landscape. This could impact historic properties if they are located within the viewshed and audible area of the proposed projects and if the characteristics that make the properties eligible are affected by changes in the visual and audible environment. BLM is currently not aware of any historic properties that contain these characteristics in the area on BLM managed public lands; however consultation is on-going.

Resources Important to Native American Tribes

Traditional Plants: Past and present actions including livestock grazing, road maintenance, mining activities, and general vehicle travel has resulted in changes to vegetation within the Clarks Creek drainage. Past mining disturbance in the Clarks Creek drainage date back to the 1880-90s and these disturbances may have reduced or limited the relative abundance or potential for traditional plants to grow along Clarks Creek today. The majority of the culturally significant plants identified during BLM plant surveys appears to be scattered around the project area and may be more abundant in other areas.

Restoration plans do not include many of the plant types traditionally utilized by the tribes. Therefore, it is likely that the area would continue to provide only small quantities of the traditional plants needed to make this area desirable for resource gathering in the foreseeable future. Increased traffic and soil disturbance may require additional treatments for weeds or an increased frequency of treatments which can contribute to the existing lack of availability of the traditional plants.

Wildlife Habitat: The quality of wildlife habitat may have been impacted in the past by mining activities; however, the area has improved over time and currently provides a location where tribal members may choose to exercise their treaty rights.

Cumulative effects from the projects described above would cause additional noise and traffic. These disturbances would make the Clarks Creek area less desirable for tribal members to exercise their treaty rights for hunting due to lack of wildlife from increased noise and activity.

Access: Past and present actions only would be limiting access to active mining operations for safety. Cumulative effects would be increased traffic, making access more difficult because of lack of adequate road maintenance.

Noxious and Non-Native Invasive Plants

Past and present land management actions have impacted the spread and establishment of noxious and non-native invasive weeds in the Paul Ada #2 and Snappy Ben project area. Ground disturbing activities such as livestock grazing and mining activity have contributed to weed establishment. Mechanisms for weed spread include vectors such as vehicle travel, wind, water, and domestic and wild animals. These mechanisms are anticipated to continue to be present in the project area.

The Paul Ada #2 and Snappy Ben project area is surrounded by multiple, active mining operations. Besides the access route described in Alternative 2, equipment and vehicle travel within the surrounding mining operations are minimal. As long as weed control and monitoring efforts continue, impacts associated with road widening and traffic are expected to be negligible.

Alternative 1: Cumulative effects are expected to be adverse and moderate, depending upon the success of controlling noxious and non-native weed spread and establishment. An integrated weed management approach, which considers multiple weed control methods such as biological, chemical, and manual, is necessary to reduce the risk of weed establishment and spread (Sheley and Petroff 1999). Aggressive and consistent control measures, as well as continuous monitoring, are necessary along transportation corridors and within reclamation areas.

Alternative 2: Cumulative impacts through the spread of noxious and non-native invasive weeds are expected to be adverse and moderate. These impacts are the same as those described in Alternative 1, but with additional access and mining related ground disturbance.

Alternative 3: Cumulative impacts through the spread of noxious weeds are expected to be adverse and minor when compared with Alternatives 1 and 2. Although the overall ground disturbance would be less under Alternative 3, this alternative lacks a vegetation management plan that addresses current and long-term noxious weed control with ongoing monitoring of site conditions.

Water Resources

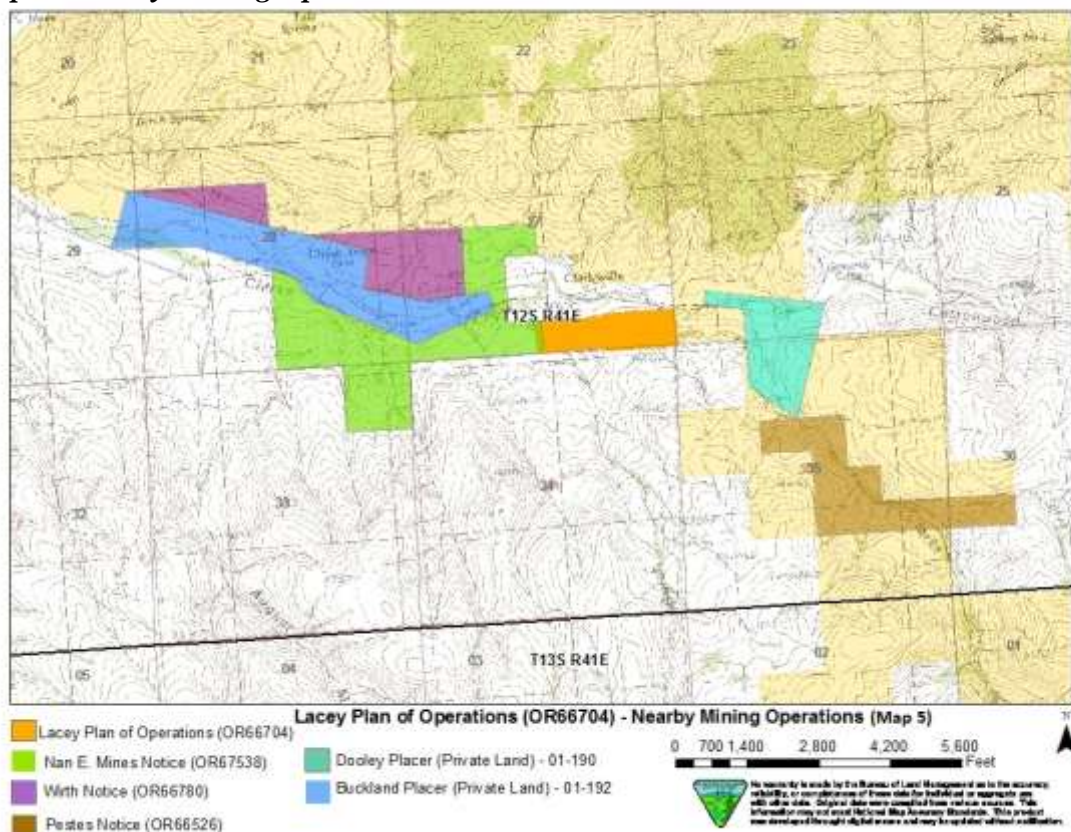
Water resources of the Clarks Creek drainage (Level 6 Subwatershed, 17,017 acres) have been affected by mining activities since the 1860s. These mining activities were primarily for placer gold and have altered the hydrology, stream channels, and uplands in both the drainage and the project area. Since past and current mining activity was primarily for placer gold, acid mine drainage created by disturbing of sulfide mineralized

zones or water contamination from mining chemical use, has not been identified as a concern within the drainage basin. Livestock use, road use and maintenance, wildfire and vegetation management, and other activities on public lands within the watershed have impacted vegetation, stream channels, riparian areas, and soil structures. Limited agriculture development and other development on private lands (51% of drainage) have also impacted the drainage.

The current operations being conducted under two mining Notices could eventually cover roughly 10 acres within the drainage. The present operations continue the history of mining in the area and on the existing site. Much of the existing mining activity in the area, three mining notices on public lands and two operations on private lands, are in the immediate vicinity of the Plan and are concentrated on the last four mile section of Clarks Creek before it dumps into the Burnt River (see Map 5 on page 52). Existing mining activity on private lands being conducted under permits from DOGAMI have approximately 75 acres disturbance and are primarily within the flood channel of Clarks Creek. Two of the exploration notices on public lands are outside of the channel area on benches. One of the operators under the notice OR-67538, has submitted a draft plan of operations that would disturb up to 30 acres of previously mined areas immediately to the west of the Lacey project area. The third notice is located along the Clarks Creek Channel but has seen minimal activity.

In addition to the mining activities, the road going by the mine is a County road accessing more BLM lands and private property, and therefore some of the same access roads as the proposed operations would be utilized for other uses. This combined use increases the impacts to the roads and potential for greater erosion along the shared routes.

Map 5: Nearby Mining Operations



An increase in mining activity could limit the available amount of water from Clarks Creek available for mining activity for all operations in the area. Although water rights for mining activity exist in the area, variations in surface flow or use at the same time by the miners could limit further mining activity or other water dependent activity because of water shortage. Water wells for mining on private lands are permitted, but additional wells that might be needed could eventually affect groundwater within the drainage.

Under Alternative 1 there would be 30 acres of disturbance, Alternative 2 has 35 acres of disturbance, and Alternative 3 would disturb 10 acres within the project area, covering a limited amount of the watershed. Less than 1% of the watershed is disturbed under all of the alternatives. Because the Plan is located outside of the Clarks Creek channel on an upland bench, as opposed to adjacent existing operations that are immediately adjacent to Clarks Creek, there should be a minimal cumulative increase of sedimentation into Clarks Creek and as a result the cumulative effect to the watershed and water quality from mining would be limited. Future development of upland areas for placer gold production, such as on the True Claims within the Clarks Creek drainage, should be able to limit sediment generation into Clarks Creek. Potential future activity within the Clarks Creek channel area could increase sediment generation. The cumulative impacts from this project in addition to the other existing nearby projects in the watershed would be minor to moderate adverse.

Wildlife and Special Status Species

Cumulative impacts analyze past, present, and reasonable foreseeable impacts to wildlife to wildlife habitat. Because impact magnitudes are similar between species this cumulative section will combine the analysis for sage-grouse, eagles, big game, and neotropical and migratory birds into one section.

Past mining activity can still be seen throughout most of this region. Historic tailings are dotted throughout the landscape and are a part of current wildlife habitat that is used today. Currently, there are two on-going Notices, one pre-test Notice, , and two private mining operations within the vicinity of the the Lacey Project Area at Clarks Creek. The size of the projects vary, the Buckland Mine being the largest. Habitat conditions vary depending on the location of the project. Two other placer plans of operations, Mineral Valley at Mormon Basin, and High Bar at Pine Creek, a tributary of the Burnt River, are also in the general area of the project area. Aspects that are beneficial to wildlife habitat are the reclamation and mitigation standards set for any mining that takes place on public lands. For example, High Bar, also in general sage-grouse habitat has mitigation measures that reduce negative impacts to wildlife by setting noise buffers and reclamation standards. This was done because portions of that operation were in the vicinity of an active sage-grouse lek area, which is not the case with the Lacey project area. Areas that would have reclamation standards would be beneficial to wildlife if they were in a state of habitat degradation before project implementation. These projects in combination with the Lacey Claim would have temporary negative impacts to wildlife and would be negligible to minor in magnitude. However as areas are reclaimed, wildlife would start to use the areas for their life history needs and overall, the Action

Alternatives would have long-term beneficial impacts that are negligible to minor in magnitude.

Visual Resources

Past and present actions affecting visual resources within the project area have included mining activities and primitive road/trail development, most of which were associated with previous and historic mining efforts. The impacts of these past actions have changed the existing landscape of the public lands as well as the adjacent private lands through the disturbances created by mining operations. Although the actions and impacts from these operations, both past and present, have modified the public lands, those impacts are localized and do not dominate the landscape. All actions past and present are consistent with the VRM Class III/IV objectives for the area as well as the VRI level of those lands, and no cumulative impacts to the landscape views of the area from these actions have occurred.

For the visual resources associated with the proposed mining area, it is reasonable and foreseeable that the mining operation would have some impact to the visual integrity of the landscape as well as the visual expectations of the users of the immediate area for the 20 years of estimated duration of operations. Long term effects to visuals would be mitigated by reclamation efforts. Additionally, the Visual Resource Inventory (VRI) and Visual Resource Management (VRM) determinations associated with the 2011 Baker F.O. Draft Resource Management Plan/EIS continue to classify this area as VRM Class III or Class IV (depending on the final alternative selected) and therefore visual impacts from the proposed activities would not degrade any identified visual area nor would it violate any assigned visual management objective.

Access

Past and present use of the proposed project area have created a variety of developed roads as well as user created trails in conjunction with county and BLM road systems and general public use of public and private lands. A number of these user created primitive roads/trails resulted from the use of OHV's and the designated "OPEN" classification for off-road vehicle uses assigned to the area. Although not an area of concentrated public use, the road and trail systems have provided the ability for exploration and recreational pursuits by public land users. Some required safety restrictions of specific routes might affect the normal travel routine by users of the area however the overall uses of the BLM lands would not be affected. Access in the short to moderate timeframes would have negligible impacts with no long term or future impacts anticipated. Additionally, there are two active existing placer mines downstream from the project area on private lands, which have increased heavy truck traffic along the county road and on adjacent lands. Although this increase in use along with the development and addition of access routes, has added to the overall route network of the BLM lands in the immediate area, the overall cumulative effects of these past, present and reasonably foreseeable actions is negligible.

Recreation

Past and present use of the proposed project area consists of primarily dispersed uses for a multitude of recreational pursuits. The recreational uses of the BLM lands throughout the area tend to be focused more during the fall months of the year which coincide with

the Oregon state scheduled big game hunting seasons (i.e. deer, elk). The BLM lands within the region associated with the proposed project area attract the same dispersed uses with visitor numbers fluctuating slightly during the peak use periods in the fall as a result of weather conditions being experienced in the general area. Road conditions as they relate to recreational pursuits are also a primary influence on the amount, type and duration of recreational activities within the area. County and BLM road systems in the area are either slightly modified or natural surface roads that may become impassable to the public therefore affecting recreationists. The addition of the proposed project to the past and present conditions within the project boundaries as well as within the general region would not detrimentally affect the recreational activities of the area, nor would the addition of the projects activities, such as road developments, available for recreational uses be considered a benefit. Cumulative effects on the recreational resources in the area from the past, present and reasonably foreseeable future actions would be negligible.

Vegetation

The BLM estimates there are currently 171,689 acres of intact native sagebrush communities within the Baker Resource Area and past management has resulted in the conversion of an additional 116,307 acres of sagebrush to non-native species (BLM 2009). Future projects that will impact native sagebrush communities include the Boardman to Hemingway 500kv transmission line. The impacts to sagebrush as a result of this transmission line project have not been quantified; however the BLM estimates that 250 to 500 acres of native sagebrush within the Baker Resource Area could potentially be converted to non-native species. The PaulAda #2/Snappy Ben mining project is likely to temporarily increase the acreage of non-native species by 15 acres. However, once mining has ceased reclamation will begin and in time the acreage of native sagebrush plant community will increase by 15 acres.

Summary of cumulative effects

Overall there would be minor to moderate incremental cumulative impacts. Impacts would be reduced subject to implementing design features, BMPs, and conformance with Federal and State regulations. It is estimated that short-term impacts would be minor to moderate. However, with appropriate design features, BMPs, concurrent reclamation, and final site reclamation, cumulative long-term impacts to the area would be minor.

b. Unavoidable Adverse Effects

As with all alteration of material there are unavoidable adverse effects to soil from separation of materials from a defined matrix. The potential swell factor from excavations in situ may require additional seeding acreage due to the extra loosely packed material.

c. Relationship of Short-Term Uses and Long-Term Productivity

No effects related to this project were identified that were not disclosed in the Baker Resource Area Management Plan. The desired future condition of the project area would dictate the standards to which the operator would need to accomplish to have his bond returned to him.

d. Irreversible and Irretrievable Commitments of Resources

Valuable minerals on BLM managed lands are a limited resource and consumed by the operators. The commitment of valuable minerals is irretrievable and irreversible. This commitment of minerals is allowed under the 1872 Mining Law and is addressed as a goal in the Resource Management Plan for the Baker Resource Area.

e. Potential Conflicts with Plans and Policies of Other Agencies

Implementation would not result in any conflicts with other agencies. The operators are required to follow all Federal, state and local laws and regulations in order to implement their operations. The BLM has also coordinated all permitting and other issues closely with involved agencies.

f. Energy Requirements

There would be no unusual energy requirements for implementing any alternative.

5.0 CONSULTATION AND COORDINATION

5.1 Agencies Consulted

Oregon Department of Fish and Wildlife	U.S. Fish and Wildlife Service
Oregon State Historical Preservation Office	Baker Water Resources Department
Oregon Department of Environmental Quality	Burns Paiute Tribe
Confederated Tribes of the Umatilla Indian Reservation	

5.2 Interdisciplinary Team Members

Margaret Doolittle	Team Lead/Geologist/Socioeconomics
Steve Flock	Editor/Water Resources/Soils
Melissa Yzquierdo	Wildlife Biologist
John Rademacher	Botany/Vegetation
Kevin McCoy	Visuals/Recreation/Access
Katy Coddington	Archeologist/Tribal Liaison
Gary Guymon	Range Management
Sam Cisney	Noxious Weeds and Non-Native Plant Species
John Quintela	Fisheries

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Appendix A - Spill Contingency Plan

ANNUAL SPILL CONTINGENCY PLAN FOR THE PAULADA#2 MINE

Primary Contact: Art Lacey, 3167 Goodrich Rd., Cambridge, Idaho 83610, 208-257-3894

Location of Mine: T 12S, R 41E, Sec 27 near Towne Gulch

Access: From Bridgeport, head downstream on the Burnt River County road, turn on the Clarks Creek County road and head upstream, turn south on the mine access road at Clarksville, drive through private land to the claim.

Material on Site:

100 gallons or less of petroleum products (gas and diesel) will be hauled in to fuel equipment using tanks located in the back of a pickup or on a flatbed truck. Small quantities of the following will be used on site:

Hydraulic fluid - 5 gal. buckets

Motor oil - 5 gal. buckets

Grease - 14 oz. tubes

MSDSs are available at the mine site for all the above products. All materials are labeled as is required by Federal and State law.

Art Lacey will be responsible for supervising initial containment action for releases and subsequent clean-up.

Procedure for Responding to a Release:

Spills which occur when fueling equipment will be contained, the soil will be excavated and removed from the BLM. Most spills from fueling equipment will be small (de minimis) since a funnel will be used to minimize spillage.

Contaminated soil will be excavated to the depth of saturation and removed from the BLM.

If it is a large spill of 42 gallons or more, (such as if someone shot a hole in a loader or cat fuel tank) the soil would be bermed around the spill area so the material would be contained, straw or absorbent material would be used to soak up excess spill material, then the saturated soil and straw would be excavated to the depth of saturation and removed from the BLM.

Small spills from stationary equipment will be contained in the mats and catchment pits under the stationary equipment. Absorbent material will be on site in case of small spills.

This material will be removed from the BLM and be disposed of at an appropriate

landfill.

Petroleum products such as oil, grease, and hydraulic fluid, which are being used on a daily basis, will be temporarily stored at least 50' from Towne Gulch in the back of a pickup or on a trailer in the area where equipment is parked. Absorbent matting will be installed under the petroleum products to catch any spills. Enough packages will be kept on site for all machines. For info on absorbent matting see the Material Safety Data Sheet (3 pgs) attached to back of plan.

This area will be cleaned as needed, the material removed from the BLM to an approved landfill and a new liner installed under the products.

Procedure for Notifying the BLM:

No notification is needed for small spills (less than 42 gallons) in dry upland areas.

If a storage tank ruptures, operators would immediately conduct the clean-up. Since there only small quantities involved and the equipment does not work near the creek there should be no release.

If there is a release of 42 gallons of gas or diesel, the operators will immediately conduct containment and clean-up actions as outlined above. Contaminated soil will be excavated to the depth of saturation and will be removed from the BLM and taken to an approved landfill.

The BLM would be notified by calling 523-4476 and reporting the spill to the Field Manager. BLM will make a recommendation if they believe additional release Assessment or clean-up is necessary. DEQ would then be notified.

All releases of 42 gallons or more of gas or diesel, which are not contained in the containment vaults (metal livestock watering tanks), will be reported, not just those spills caused by the miners.

Signature

Date

Appendix B - Towne Gulch Riparian Zone Buffer



Lacey Plan of Operations (OR66704) - Riparian Zone Buffer

- Existing Disturbance
- Settling Ponds
- Riparian Zone
- Buffer Zone

0 65 130 260 390 520 Feet



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Appendix C - Botanical and Wildlife Evaluations

Botanical Evaluation for Lacey

Bureau of Land Management Vale District, Baker Resource Area

Botany Report Number: 2014-1
Project Name: Lacey
EA/Casefile No.: 066704

Report Date: May, 7 2014

Location: T12S R44E Sec 27

File Search/Previous Clearances:

No previous clearances documented; nearby historic records for special status species that would grow in this area under GeoBOB

Field Method/Survey Intensity: Ocular grid

Acres Inventoried: 20 Visibility: Good

Field Survey Date: May 7, 2014

Field Examiner: Yzquierdo

Soils: Clay/ Sand

Plant Community Description: Snappy Ben- This gold placer project is located on a north-facing hillside by China Town. Historically, this site has been previously mined in the early 1900s. Vegetation on this project site has since been reestablished mostly native under and overstory. Weedy species were mostly located by the road and drainage found at the bottom of the project site. **Paula Ada-** This area is dominated by weeds and has been worked extensively by machinery.

Special Status Plants Found During Inventory: None

Impacts of Proposed Action:

The proposed action is unlikely to have any effects on any special status plant species. However this project will destroy any desirable tree species.

Recommendations (Including Mitigation):

Observations: Some large pines may want to be preserved

Vegetation species list

Upland

Alumroot (*Heuchera* sp.)
Alyssum (*Alyssum simplex*)
Arrowleaf balsamroot (*Balsamorhiza sagittata*)
Aster (*Aster* sp.)
Basin big sagebrush (*Artemisia tridentata* Nutt.
ssp. *Tridentata*)
Blepharipappus 'eyelash' (*Blepharipappus scaber*)
Blue penstemon (*Penstemon cyaneus*)

Brodiaea (*Brodiaea* sp.)
Buckwheat (*Eriogonum* sp.)
Collomia (*Collomia grandiflora*)
Common snowberry (*Symphoricarpos albus*)
False dandelion (*Nothocalais* sp.)
Fern sp. (*Cystopteris* sp.)
Fool's huckleberry (*Menziesia ferruginea*)
Forget-me-not (*Myosotis arvensis*)
Goosefoot violet (*Viola purpurea*)

Grass widows (*Sisyrinchium douglasii*)
 Gray rabbitbrush (*Ericameria nauseosa*)
 Green rabbitbrush (*Ericameria teretifolia*)
 Grouse huckleberry (*Vaccinium scoparium*)
 Horsemint (*Monarda punctata*)
 Indian paintbrush (*Castilleja* sp.)
 Large-flowered collomia (*Collomia grandiflora*)
 Larkspur (*Delphinium* sp.)
 Lowly penstemon (*Penstemon humilis*)
 Milkvetch (*Astragalus* sp.)
 Mountain big sagebrush (*Artemisia tridentata*
 Nutt. ssp. *Vaseyana*)
 Oregon sunshine (*Eriophyllum lanatum*)
 Parsley species (*Lomatium* sp.)
 Pearl everlasting (*Anaphalis margaritacea*)
 Phacelia (*Phacelia*)
 Phlox (*Phlox* sp.)
 Prairie blazing star (*Lithophragma parviflora*)
 Prince Pine (*Chimaphila umbellata*)
 Purple fritillary (*Fritillaria atropurpurea*)
 Pussytoes (*Antennaria anaphaloides*)
 Redstem storks bill (*Erodium cicutarium*)
 Rockcress (*Arisis* sp.)
 Rose (*Rosa* sp.)
 Sagebrush bluebells (*Mertensia oblongifolia*)
 Sagebrush buttercup (*Ranunculus glaberrimus*)
 Scarlet gilia (*Ipomopsis aggregata*)
 Serviceberry (*Amelanchier alnifolia*)
 Shaggy fleabane (*Erigeron pumilus*)
 Shaggy milkvetch (*Astragalus malacus*)
 Shooting star (*Dodecatheon meadia*)
 Showy penstemon (*Penstemon spectabilis*)
 Silky lupine (*Lupinus sericeus*)
 Silver-leaf phacelia (*Phacelia hastata*)
 Spiny sandwort (*Arenaria aculeata*)
 Spring beauty (*Claytonia virginica*)
 Three-tip sagebrush (*Artemisia tripartita*)
 Waterleaf (*Hydrophyllum* sp.)
 Western hawkweed (*Hieracium albertinum*)
 Western peony (*Paeonia brownii*)
 Wilcox's penstemon (*Penstemon wilcoxii*)
 Wild onion (*Allium ascalonicum*)
 Woodbrush pussytoes (*Antennaria luzulides*)
 Wyoming big sagebrush (*Artemisia tridentata*
 Nutt. ssp. *Wyomingensis*)
 Yarrow (*Achillea ageratifolia*)

Grass

Basin wildrye (*Leymus cinereus*)
 Bluebunch wheatgrass (*Pseudoroegneria spicata*)
 Cheatgrass (*Bromus tectorum*)
 Idaho fescue (*Festuca idahoensis*)
 Purple oniongrass (*Melica spectabilis*)
 Red threeawn (*Aristida loniseta*)
 Sandberg bluegrass (*Poa secunda*)
 Squirreltail bottlebrush (*Elymus elymoides*)

Trees

Coyote Willow (*Salix exigua*)
 Elderberry (*Sambucus mexicana*)
 Peach leaf willow (*Salix amygdaloides*)
 Ponderosa Pine (*Pinus ponderosa*)
 Western juniper (*Juniperus occidentalis*)
 Whiplash willow (*Salix lasiandra*)

Weeds

Blue mustard (*Chorispora tenella*)
 Bur buttercup (*Ranunculus testiculatus*)
 Claspig pepperweed (*Lepidium* sp.)
 Fiddleneck (*Amsinckia* sp.)
 Hounds tongue (*Hieracium cynoglossoides*)
 Mullen (*Verbascum thapsus*)
 Prickly lettuce (*Lactuca serriola*)
 Scotch thistle (*Onopordum acanthium*)
 Shepard's purse (*Capsella bursa-pastoris*)
 Teasel (*Dipsacus* sp.)
 Tumble mustard (*Thelypodopsis* sp.)
 Whitetop (*Cardaria draba*)

Riparian/facultative

Clematis (*Clematis ligusticifolia*)
 Columbine (*Aquilegia canadensis*)
 Dandelion (*Taraxacum* sp.)
 Golden currant (*Ribes aureum*)
 Herb sage (*Salvia apiana*)
 Kentucky bluegrass (*Poa pratensis*)
 Nettle-leaf horsemint (*Agastache urticifolia*)
 Rocky Mountain iris (*Iris missouriensis*)
 Strawberry (*Fragaria* sp.)
 Sweet clover (*Melilotus* sp.)
 Veronica (*Brickellia veronicifolia*)
 Wild geranium (*Geranium viscosissimum*)

Signature: _____

Wildlife Evaluation for Lacey Mining Claim

Bureau of Land Management Vale District, Baker Resource Area

Wildlife Report Number: 2011-1
Project Name: Lacey
EA/Casefile No.: 066704

Report Date: July 24, 2014

Location: T12S R44E Sec 27

Wildlife Observed:

Mule deer
Western meadowlark
Cottontail rabbit
Sage sparrow
Redtail hawk
Northern harrier
Horned lark
Chukar
Cicada/dragonfly/damselfly

American robin
European starling
Field mouse

Other Presence:

Elk scat
Coyote scat
Deer scat
Badger burrows
Marmot

Special Status or General Wildlife likely to be in area; habitat; survey considerations:

At the time of the survey, there was no special status wildlife species present within the project area. There is approximately 15 acres of sage-grouse general habitat.

Potential for occurrence or habitat for:

According to the best available records and field observations, no established federal or state listed species currently occur within the analysis area. However, there is PGH habitat for sage-grouse.

Found no indications or presence of:

Sage-grouse/Bald or golden eagles

File Search/Previous Clearances:

A botanical survey was conducted at the same time.

Field Method/Survey Intensity:

Acres Inventoried: 30

Visibility: Clear

Field Survey Date: May, 07 2014 Field Examiner: Melissa Yzquierdo

Impacts of Proposed Action:

This is identified as critical winter range for big game and general habitat for sage-grouse.

However, this area would not support sage-grouse life history needs because of the dominance of weeds and the extensive disturbance from mining. The proposed action is going to have negligible to minor wildlife species. However, most likely wildlife species would be displaced and return to the area after cessation of mining activity and reclamation. During the project wildlife would disperse of the project site, but later would start to use the area after reclamation.

Recommendations (Including Mitigation):

Retain the larger ponderosa trees.

Signature: _____

Appendix D – Soils Data and Map

The general soil classification of soils within the project area are the Virtue-Poall-Encina unit that are deep and moderately deep, well drained silt loams, gravelly silt loams, and very fine sandy loams that formed in lacustrine environments. These soils are mainly used for livestock grazing with some hay production and are important for wildlife habitat. Detailed soil units within the project area are:

Encina Gravelly Silt Loam (Map Unit 50C) – 15.7 acres – Found on terraces (2 to 12 percent slope) and are deep, well-drained soils with a slight to moderate erosion hazard. Runoff is slow to medium. Dominant vegetation is bunchgrasses, forbs and shrubs:

Idaho Fescue 70%
Wyoming Big Sagebrush 15%
Bluebunch Wheatgrass 5%

Encina Gravelly Silt Loam (Map Unit 51D) – 4.6 acres – Found on terrace slopes (12 to 25 percent slope) and are deep and well-drained with a moderate to high erosion potential. Runoff is medium. Dominant vegetation is bunchgrasses, forbs, and shrubs:

Bluebunch Wheatgrass 75%
Sandberg Bluegrass 5%
Thurber Needlegrass 5%

Nagle Silt Loam (Map Unit 113D) 113D – 11.9 acres – Found on steep slopes (12 to 35 percent slope) and are deep and well-drained soils with medium runoff potential and a moderate to high risk for erosion. Runoff is medium. Dominant vegetation is bunchgrasses, forbs, and shrubs.

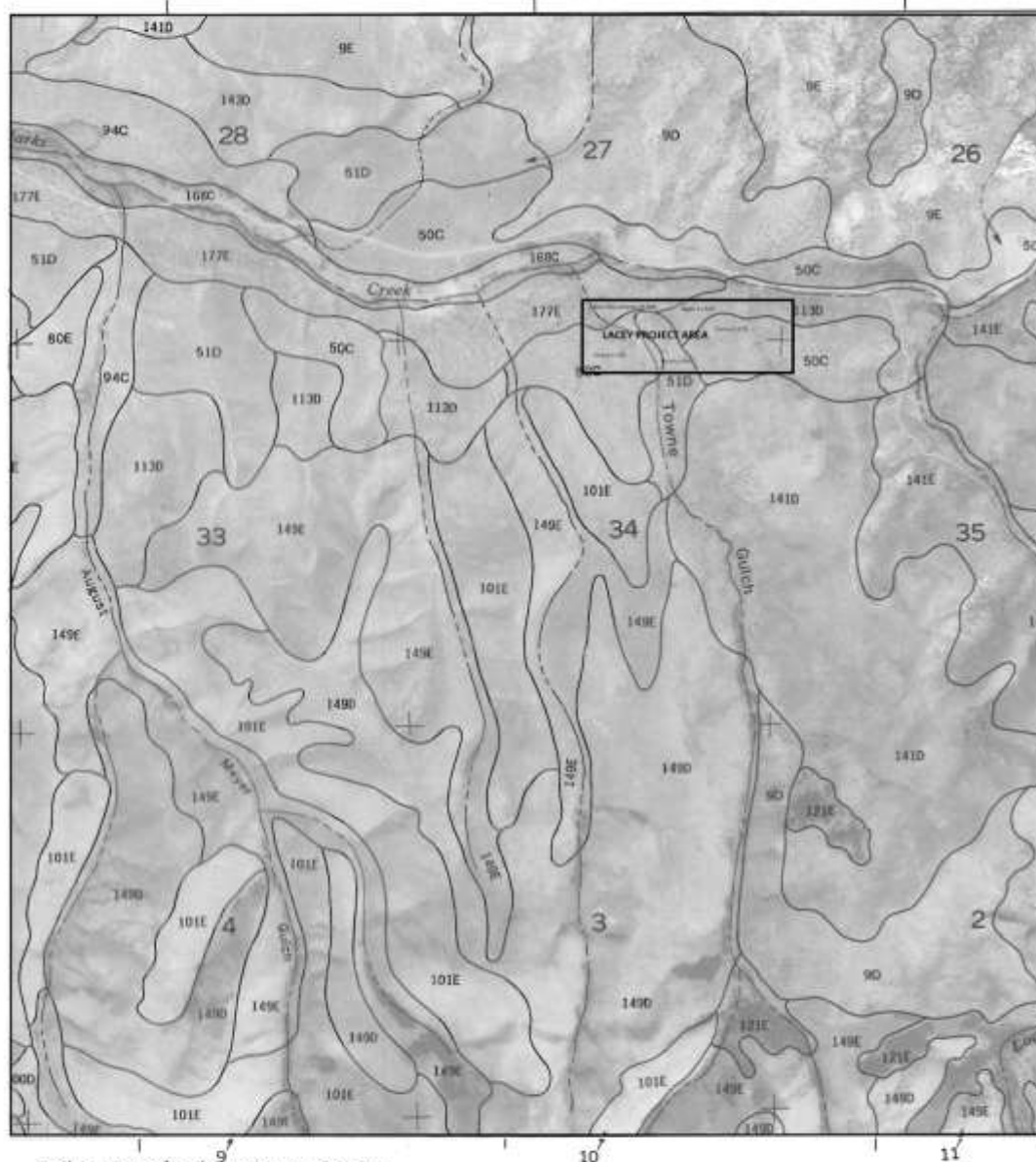
Idaho Fescue 70%
Bluebunch Wheatgrass 5%
Sandberg Bluegrass 5%
Wyoming Big Sagebrush 5%

Xeric Torriothents (Map Unit 177E) – 6.5 acres – Shallow, well-drained soils found on very steep faces (35 to 60 percent slopes) of terrace escarpments. Silty loams at surface grading into lacustrine sediments at depth. These soils have a moderate permeability, with rapid runoff potential and erosion potential is high to very high. Dominant vegetation is bunchgrasses, forbs, and shrubs:

Antelope bitterbrush 40%
Needleandthread 15%
Basin big sage 10%
Rabbitbrush 10%
Thurber Needlegrass 10%

Source: Soil Survey of Baker County. 1997. Natural Resources Conservation Service.

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Soil Survey of Baker County, Oregon
USDA, Natural Resources Conservation Service



Appendix D

Appendix E – Comment Response Clarks Creek (Lacey) Placer Mining EA

Oregon Wild, 10/27/2014, Doug Heiken, representative for Oregon Wild:

Comment 1: Oregon Wild questions whether this 30 acre placer gold mining project is the highest and best use of public lands.

Response: The Mining Law of 1872 governs mining claims and sites located on Federal lands. It declared that public lands that are open to mineral-entry and are available for development and extraction of metallic and nonmetallic locatable minerals by United States citizens. The law also encourages mining companies to initiate exploration and development of such minerals. The 1989 Baker RMP EIS:

“Encourage and facilitate the development of public land mineral resource by private industry in a manner that satisfies national and local needs; and provides for economically and environmentally sound exploration, extraction, and reclamation practices. Mineral exploration and development can occur concurrently or sequentially with other resource uses.” (EA Chapter 1 Section 1.6)

Comment 2: The EA does not disclose how BLM determined that these mining claims are valid and whether there is enough gold there to justify these significant and long-lasting impacts on the environment.

Response: The U.S. Supreme Court ruled in *Union Oil Company of California v. Smith*, 249 US (1919) that although the mining law viewed discovery of a valuable mineral deposit as a precursor to locating a mining claim, in fact a claimant may peacefully and in good faith locate and occupy a mining claim for the purpose of discovering a valuable mineral. That basic ruling has not changed over nearly a century of mining law. As long as the search is conducted diligently and in good faith with actual physical possession of the claim, the claimant can exclusively hold the land against all others having no better right. Consequently, location can (and usually does) precede discovery.

The right of access, occupancy, and possession of a mining claim for purposes reasonably incident to discovering a valuable mineral deposit means that a claimant will likely propose a plan of operations for mining activity at some point in time. As long as the mining claim is on lands open to operations under the 1872 Mining Law, and absent a compelling public need, the BLM has no basis to try to deprive a claimant of those rights simply because a plan of operations has been submitted.

Through the procedure used to process a proposed plan of operations, the BLM recognizes the claimant’s right to enter, prospect and mine on public lands but develops mitigation and reclamation measures to ensure that all operations are conducted so as, where feasible, to minimize adverse impacts to surface resources. (EA Chapter 1 Section 1.6)

Comment 3: The area proposed for mining appears to include undisturbed rangelands, mining disturbance will cause irreversible impacts, even after reclamation.

Response: The proposed mining area contains both highly disturbed, previously mined areas and areas undisturbed by mining activity. It is likely that during operations and at the beginning of reclamation, vegetative cover and production would be reduced, but long-term vegetation re-establishment would return the site to near pre-mining condition. Areas of historic mining, including large cobble pile areas devoid of soil that currently have little or no vegetation, might actually be improved by mining activity under the plan of operations, when growth medium (tails or overburden) is placed in these areas during reclamation and seeded. (EA Chapter 4 Section 4.2f)

Comment 4: Make sure that that the reclamation plan achieves a high degree of restoration.

Response: Reclamation under the plan of operations would achieve a high degree of restoration of the site. Since reclamation would include concurrent reclamation of the site there would not be a large open pit area left open during operations or after reclamation. Because of historic mining activity at the site, it is not likely that the original contour of the site could be achieved by reclamation. An effort would be made to return the site to original contour, but the current bench area would likely remain as a level area to some extent except on the edges where it might be pushed down slope or upslope somewhat. The current 200 linear feet of almost vertical pit face would be sloped at less than 2:1 slope during reclamation which in some areas might be slightly greater than the existing slope. As discussed above, areas with rock piles with no current vegetation, could be improved if even some growth medium is placed in these areas during mining activity. Concurrent reclamation by the miner should ensure that reclamation and revegetation of a large proportion of the mining site should have already been completed prior to the initiation of final reclamation. (EA Chapter 2 Section 2.1k)

Comment 5: The settling ponds should be designed so they are safe for wildlife, including the bottom contours, exit ramps, and water quality conditions.

Response: The settling ponds have already been installed under the existing mining notice for exploration activity at this site. They are shallow and unlined with gentle sloped sides that have not proven a hazard to wildlife during past operations at the site. Even under the plan of operations, activity at the site would not be continuous, so standing water held within the settling ponds would not be constant since it would evaporate and/or sink into the soil within the impoundment area. (Chapter 2 Section 2.1f)

Comment 6: The EA indicates that the miner proposes to leave the settling ponds for wildlife. This makes little sense because there will not be a water supply after mining and removal of the pipelines. Also, the ponds are not natural; they have non-natural geometric shape; and their water quality may not be fit for wildlife.

Response: The miner would leave the settling ponds for wildlife only if the BLM approves them not being reclaimed. As the comment states, since these ponds would not have a water source after mining operations, they would likely not contain water, and the

miner would be required to backfill, recontour, and revegetate depending on BLM's level of reclamation identified. The freshwater storage pond, within Towne Gulch, would likely contain some water after mining operations, even if only after spring snow-melt. It is likely that this pond would be left in place for wildlife at the conclusion of reclamation because of its age (predating the current mining activity on the site), its ability to retain water, and the surrounding riparian vegetation. (EA Chapter 4 Section 4.2d)

Comment 7: Reclamation should require a native seed mix.

Response: BLM will require that a native seed mix be used for both interim and final reclamation. Under BLM Manual 1745 – Introduction, Transport, Augmentation, and Reestablishment of Fish, Wildlife, Plants – Section 06A “Native species shall be used, unless through the NEPA process it is determined that:

- (1) Suitable native species are not available;
- (2) The natural biological diversity of the proposed management area will not be diminished;
- (3) Exotic and naturalized species can be confined within the management area;
- (4) Analysis of ecological site inventory information indicates that a site will not support reestablishment of a species that historically was part of the natural environment;
- (5) Resource management objectives cannot be met with native species.” (EA Chapter 2 Section 2.1k)

Comment 8: We urge BLM to prohibit mining vehicles or equipment from crossing any streams when they are flowing or wet.

Response: Under Alternative #1, the existing access across Clarks Creek is on private lands and the BLM would not have authority to mitigate access at that crossing. Under Alternative #2, the proposed access across Clarks Creek is along an existing route that has been armored at the crossing to reduce sedimentation and stream damage. Given the intermittent nature of activity under this plan of operations, vehicle travel is not expected to increase dramatically over the current exploration notice. Heavy equipment is left on the site year-round and would not travel these routes on a regular or frequent basis. (EA Chapter 2 Sections 2.1a and 2.2b)

Comment 9: The miners RVs should have approved waste systems and assurance that all waste will be disposed of appropriately.

Response: Although operations are intermittent, RV units would be required to have approved waste systems to dispose of human waste (black water) and to meet other applicable state regulations. (EA Chapter 2 Section 2.1c)

Comment 10: BLM should make sure that the miners have valid permits from DEQ and OWRD for using and polluting the public's water.

Response: The miner is currently, and will continue to operate under, a General Water Pollution Control Permit issued by Oregon DEQ. The general permit is for operations

that process less than 10,000 cubic yards of material per year. The miner also has water rights for use of water from both Towne Gulch and Clarks Creek for use in mining operations. (EA Chapter 1 Sections 1.3 and 1.6, Chapter 3 Section 3.1e)

Comment 11: We support the review and increase in the current bond.

Response: Depending upon the alternative chosen, the reclamation bond would be recalculated to reflect the increase of disturbance from operations going from the current notice to the plan of operations. This estimate will be based on BLM needing to hire a 3rd party contractor to complete reclamation if the miner is unable to as required under 43 CFR 3809.552. The miner would also be conducting concurrent reclamation during operations, primarily backfilling pit areas before moving on to the next mining area. This would reduce the amount of bond increase required. The miner would be required to post the increased bond amount prior to initiating operations under the plan of operations. (EA Chapter 2 Section 2.1)

Comment 12: Avoiding the spread of weeds during and after mining should be a priority.

Response: During mining operations, the operator would be required to keep the area of operations weed free, with special emphasis on those weeds listed as noxious. Failure to control noxious weeds during operations or during reclamation would be considered undue or unnecessary degradation of public lands as defined in 43CFR3809. Treatment would be required to meet BLM standards, including the use of licensed pesticide applicators if necessary. All mining equipment would be cleaned using power or high pressure cleaning to remove mud, dirt, and plant parts prior to entering or leaving the site.

Reclaimed areas would be monitored for three years following the seeding. Monitoring would include invasive species identification, and percentage of desirable revegetation coverage in seeded areas. Noxious weeds would be treated and invasive plants would be evaluated and treated if their presence is interfering with successful revegetation of desirable species. If reseeded does not meet BLM revegetation standards, the operator would be notified and the area would be seeded again. (EA Chapter 2 Sections 2.1k and 2.1l)

Comment 13: The EA claims there would be beneficial impacts to wildlife after reclamation, but does not describe these effects or the trade-offs. Certainly not all effects are beneficial.

Response: Existing disturbance at the site is estimated at approximately 10 acres (5 acres historic/5 acres under exploration notice). A short-term loss of forage and cover is expected during mining operations in undisturbed areas, but reclamation of existing disturbances, especially of historic mining areas, should eventually restore vegetation or in some cases may improve vegetation beyond pre-plan of operations levels. Reclamation would facilitate native grasses in an area that is currently dominated by non-native invasive and noxious weed species. Native grasses instead of non-native or invasive vegetation would enhance habitat for the wildlife using this area. (EA Chapter 4 Section 4.2f)

Comment 14: We urge BLM to require a larger buffer along Towne Gulch, and prohibit any excavation below the level of the stream bed within the project area.

Response: The buffer that was proposed along Towne Gulch (20 feet on either side) was determined to be adequate based on information provided by the miner and field inspections conducted by the BLM. The operator does not want to mine in areas where groundwater or larger riparian vegetation (trees) would interfere with his mining operations that would increase operational costs and substantially increase reclamation costs. The riparian area along Towne Gulch is very narrow, poorly defined, and lacks continuity because of past mining activity in the area including up and down channel. (EA Chapter 2 Section 2.1h)

Oregon State Historic Preservation Office (OSHPO), 10/8/2014, Matt Diederich, representative for OSHPO:

Comment 1: OSHPO states that it appears that there have been no previous archaeological surveys completed within the proposed expanded project area of the Snappy Ben Claim, and the adjacent claim.

Response: This entire project area has been surveyed for archaeological resources, within the Snappy Ben Claim and the adjacent Nanny Mine claims. BLM has provided SHPO with two reports encompassing the area containing the historic mining site. These reports were sent to SHPO in 2003 and 2008. Additional, survey was completed during the fall of 2014, for all project areas not previously surveyed, and will be sent to OSHPO during the winter of 2015.

Comment 2: OSHPO states that the Environmental Assessment's assertion that through mitigation the project would have a no adverse effect on any previously unknown sites is incorrect.

Response: BLM agrees that any previously unknown sites identified during the 2014 survey would be subject to the Section 106 process, where the level of effect would be determined, and if an effect is adverse then a memorandum of agreement would be utilized to mitigate those adverse effects. For the known site, BLM plans to continue to follow the phased treatment plan agreed upon between OSHPO and BLM, in 2003, which is in its 3rd phase, to resolve adverse effects to 35BA1095, a historic mining site.